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VOL. LVIII No. 6 JUNE 1943

The American City

Issued Monthly by the
American City Magazine Corporation
470 Fourth Ave., New York

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Subscription, $2 per annum in United States and Canada ($3 to foreign countries)
Single copies, 35c; Back numbers, 50c

Entered as second-class matter, July 29, 1910, at the Post Office at New York, N. Y., under Act of March 3, 1879. Printed in U. S. A.

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THE MUNICIPAL INDEX AND ATLAS, used in connection with the current advertisements in THE AMERICAN CITY, places local officials in the most favorable position to obtain all types of available equipment and supplies from manufacturers who desire to serve municipal government departments—555 pages, published annually by THE AMERICAN CITY MAGAZINE CORPORATION, 470 Fourth Avenue, New York, N. Y.

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Moving Up with the Engineers

Photo by U.S. Army Signal Corps

THERE is no "front line" for the U. S. Army Engineers. With their bridges, assault boats, mines, and explosives, they fight on every front and in front of the front.

With their tools and equipment they are at the ports and behind the ports. In between, they are everywhere, constructing air fields, building roads, laying pipe lines, installing water systems, running railroads—doing anything and everything to "aid the movement of our own troops and to impede the enemy."

On the move with the Engineer Corps, following the Men of the Castle around the world, are Dresser Pipe Couplings and Repair Clamps. From camps and cantonments at home to far-flung island bases, from Alaska to Africa, from Iceland to the Caribbean—wherever pipe lines must be built fast or repaired quickly—there the speed and simplicity of Dresser products are recognized and utilized.

The familiar Castle, insignia of the U. S. Engineer Corps, is said to have been introduced by the Marquis des Androuins, one of the French engineers brought to this country by General George Washington. des Androuins based his design on the castle which guarded the gates of Verdun.

The Corps of Engineers is the only branch to have a distinctive uniform button of its own, featuring a castle which legend says is a likeness of the first fortification built on Governor's Island, New York Harbor.

Dresser Manufacturing Co., Bradford, Pa.

DRESSER

Pipe Couplings, Repair Clamps, Rings, Wheels, and Forgings for War

Post-War Urban Redevelopment

Regimentation in Housing Projects Deplored

THE public housing program carried out during the past decade segregated the lower third of the population, and undermined the democratic foundations of community life, it was declared in a report submitted to the 75th annual meeting of the American Institute of Architects, in Cincinnati, May 27, by the Institute's Committee on Post-War Reconstruction.

"Before it is too late," the committee warned, "the nation should prepare to avert a repetition of the disastrous experiences with previous building booms in residence construction, and recognize the community design as the basis of a program of action."

In the public housing program there was too much copying of European practice, with emphasis on regimentation, said the committee, announcing a plan for the cooperation of the architectural profession with other national groups in the rebuilding of America. The report continued:

"This regimentation took two forms: first, the monotonous, unhomelike repetition of barrack-buildings and of institutional group plans; and, second, the segregation of the 'lower third' of the population into concentrations where community amenities were insufficient and where contacts were severed with other economic and social groups.

"The public housing projects suffer from a failure to maintain the democratic cross-section of American life that is both the foundation and the motive power of our civilization. Although the dictates of government may have had much to do with the barren quality of the design, it was the ceilings imposed both upon rents and upon the incomes of tenants that forced the type of design and necessitated the segregation. . . .

"In all the discussion that rages about housing, architects should keep in mind the fact that in the disproportionate relation of the incomes of users of housing to building costs lies the crux of the housing problem. This disparity is the basis of the calls upon government to intervene with subsidies. It is for architects to lead in a movement really to cut housing costs all along the line, from the cost of construction, partly caused by obsolete building codes, to the costs of land, of taxation, and of finance.

"This done, the general program of post-war reconstruction should provide full employment at good wages and so greatly reduce the ranks of the lower third. Then, when the sub-marginal population thus becomes a tiny fraction, a new policy may arise—rent subsidies being granted to the individual in those cases where the individual can be nearly self-supporting, instead of subsidies made to the buildings, as now; and an enlightened program of institutional guidance developed for the remainder, the 'uemployables.'

City and Neighborhood Planning

"Another failure of housing technique—observed in private operations as well as public—is faulty integration with the master plan of the city and the district and neighborhood. The relationship of housing to other parts of the city, industries, business, parks, shopping, and to the transportation and traffic system, is rudimentary.

"Mechanical repetition of units is prevalent and so is failure to provide sufficient community facilities to make these huge collections of hundreds or thousands of homes what they should be, namely, villages and towns and neighborhoods fairly complete in themselves. Lack of community facilities in housing projects overburdens existing community facilities in other sections of the city.

"Equally important, the relationship to the tax and existing mortgage structure should be carefully worked out. Although property owners and mortgage interests have an investment in depreciated properties, they should not be permitted to block new construction; nevertheless, it must be recognized that tax-exemption of public housing projects has an impact on the solvency of existing property. These are economic problems which should be considered in the interests of the city as a whole."

Cutting Production Costs

It is of paramount importance that the production cost of all forms of construction should be reduced, but the great need is for the production of low-cost homes, the committee held. Design is a major factor in production costs, it was pointed out. The report added:

"Architects should be able to design homes which are less subject to the damaging effects of depreciation and obsolescence. This means that the neighborhood, instead of the single building, should so far as possible be made the unit of design. It is, however, just as essential that the neighborhood should be coordinated with the master plan of the city as the individual properties should be coordinated with the design of the neighborhood.

"Architects should be freed from the damaging effects of trade restrictions, combinations to prevent the introduction of new methods and materials, and archaic, over-restrictive, and too specific building codes.

Modernization Essential

"A definite effort should be made to reduce the long cycles characteristic of the building industry in which the greatest activity in building takes place at periods of high prices, and building slows down and mechanics and laborers suffer from unemployment in periods of low prices. Effort should be made to reduce these fluctuations in the course of building activity, to increase the annual wage of workers in the industry and to do away with the necessity of high hourly wages and limited production.

"A greater amount of prefabrication should be encouraged. Architects should help to dispel the erroneous impression that the purpose of prefabrication is to provide for demountability. Its true purpose is to transfer from field to shop as large a proportion of the work as can be effectively and economically assembled in advance. As they learn to design in terms of prefabricated parts, architects will learn that the discipline of prefabrication is a stimulus to improved design.

"In imagination, originality, and adaptability, there is no industry which is more resourceful than the building industry. It should struggle to free itself from those unfair, archaic, and wasteful practices with which it is afflicted as a result of the uneven uneconomic conditions to which it is subjected."

Dean Walter R. MacCornack of Massachusetts Institute of Technology is chairman of the committee which prepared the report. Chapters of the Institute throughout the country will work with other organizations in carrying out a national program of reconstruction developed by the Institute.

To Broaden Our Vision

To broaden our vision, we must, from time to time, sweep away the immediate problems that clutter our everyday thinking. These problems, like near-by trees, prevent us from seeing the forest. If we spend all our time chopping down those closest to us, we never will have an opportunity to determine whether we are going in the right direction. And direction is essential if plans are to succeed. Without the vision to set a course toward the highest goals, we will never achieve them.

BROR DAHLBERG

(Before the American Society of Planning Officials, May 1943)

"Just getting the wire laid was a tough problem. Keeping it intact in bombings, shellings and adverse weather is a twenty-four-hour proposition. . . . Wire repair crews are made up of four men. Three stand guard while the other works."
(From story by Sgt. James W. Hurlbut, Marine Corps Combat Correspondent)

Telephone Exchange on Guadalcanal

Marine communications men built it under fire. And it has been kept built. The "Guadalcanal Tel & Tel" covers well over a thousand miles of wire.

That is where some of your telephone material went. It's fighting on other fronts, too. We're getting along with less here so they can have more over there.

Telephone lines are life-lines and production lines in a war. Thanks for helping to keep the Long Distance wires open for vital calls to war-busy centers.

WAR CALLS COME FIRST

BELL TELEPHONE SYSTEM

Our Municipal Notebook

Post-War Parking

IN municipal government, the projectile and the armor plate are represented respectively by services and revenues. At the May 17 session of the annual meeting of the American Society of Planning Officials, Dr. Ernest M. Fisher pointed out that increased services can be paid for either by increased efficiency or increased revenues, and that constant public vigilance is one of the necessities of efficiency. At this meeting many questions were asked as to how post-war financing was to be done, and some fears were expressed as to the public attitude toward heavy capital spending by a nation with a debt in the hundreds of billions.

One of the speakers said that after the war, the streets must no longer be used as garages, but that vast parking facilities must be provided even at immense cost. Here is one cost, certainly, that can be tempered by effective measures. By and large, off-street parking facilities should not be provided without the aid of the parking meter in first combing out the curb-parking tangle. It will be remembered that scores of cities found that metered parking so reduced parking congestion that no serious parking problem remained. The system stopped overtime parking and cruising for space.

Even today, 400 cities are operating parking meters. When the war is over and meters are again available, every city having—or foreseeing—a parking problem would be wise to meter its congested district and solve the residual parking problem by the provision of off-street space. That way lies not only relief of parking congestion at the curb, but a new source of income as well. This income applied to traffic and street-lighting improvements in many instances means effecting the improvements. There will be plenty of mere replacements, let alone capital improvements, which will be inescapable. Problematical indeed is the desirability of plunging into extravagant projects whose costs may be lessened by simpler first steps. Solution of the old curb-parking problem was well along before the war; and after the war, the primary step of metered parking should be taken wherever congestion requires it.

"A motorist minus alertness,
Is worse than the one sans expertness:
For despite good intentions
Kind words don't pay pensions
Nor make innocent victims' hurts hurt less!"

Los Angeles Police Department

Making Wood Less Combustible

MOUNTING interest in wood construction, rather more possible than steel at this time, has stimulated both interest and development in fire retardant chemicals. The idea of making wood less combustible is ancient, and crude attempts were made to achieve it hundreds of years ago. In recent years various paints have been developed having fire-retardant properties. Paints, of course, are films or skins which, once punctured by continuous heat, can no longer protect the wood they covered. They do, however, tend to resist the spread of flame over the painted surface.

There has recently appeared on the market a fire retardant named Firepel-S, made by Albi Firepel Corporation, New York, which, though not a paint, can be applied by brush or spray gun and be used in lieu of a paint. It is said that a gallon of this aquaeous chemical will cover with two coats 100 to 150 square feet of interior surface and indefinitely maintain the resistance to ignition. The Underwriters' Laboratories tested the material on red oak and white pine, and listed and gave it a fire hazard classification based on The Underwriters' Standard of untreated red oak. Growing interest not only in wood construction, but in fire prevention measures as well, suggests that effective and economical fire retardant coatings and treatments are likely to become common practice when their existence is recognized.

Post-War Transit Plan

POST-WAR plans of hundreds of cities large and small have been compiled this year by THE AMERICAN CITY. Nearly every city has them, for wear and tear, obsolescence, and modern living standards have piled up an impressive backlog of necessary improvements. They run the gamut of municipal services from airports to auditoriums, bridges to bathing beaches, city halls to crematories, highways to hospitals, paving to playgrounds, sewers to swimming pools. One of the most glaring omissions is local city transportation.

The reason for this neglect of the basic means for getting about the city and to work and home, may be the fact that transit is a private enterprise in most cities. City officials know, however, that the transit company can't get far in town without the cooperation of the city officials and the public they represent.

In many cities, especially where transit men make transit policy, there are potential post-war transit plans which, carried out, would greatly benefit the city. Now and next year would seem to be the time for transit men and city officials to get together with common determination to work out the plans for a comprehensive modern post-war local transportation system, which is so soundly conceived and constructed that it will turn out to be most profitable to the company because of the appropriate and excellent service it provides.

While the war rages all around her, neutral but alert Turkey prepares for anything. Pictured above is one of Istanbul's emergency fire trucks manufactured by Mack Trucks, Inc., in America and purchased by the Turkish government. The trucks are equipped for emergency fire detail, and each special Mack carries a crew of 15 men specially trained in handling bombs and incendiaries.

THERE ARE *New* DUTIES . . . FOR TODAY'S ELEVATED STORAGE . . .

From one end of America to the other, municipal water supply systems are performing outstanding services. The growth of wartime industries and shifting populations has taxed many water supply facilities to capacity. In municipalities where Horton elevated tanks were erected in times of peace, the task of meeting today's water supply problems are made easier.

Adequate elevated storage provides municipalities with a reserve immediately available for fire protection, assures uniform distribution pressures, provides for pumping during off-peak periods and for emergency service in case of power failure. The 1,000-000-gal. Horton radial-cone bottom tank shown is a part of the Beaumont, Texas, water supply system.

CHICAGO BRIDGE & IRON COMPANY

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PHILADELPHIA • SAN FRANCISCO

CLEVELAND • HOUSTON • HAVANA
BIRMINGHAM • WASHINGTON

Wartime Water-Works Operation

Annual Conference

WHAT is your particular wartime water-works problem? If you don't get the answer at the annual A.W.W.A. 1943 conference on War Winning Water Works Operation being held June 15 to 18 in Cleveland, it will not be because association officials didn't try.

Labor and manpower shortage troubles? Learn how to get along with your draft board from P. B. Niles, Personnel Director, American Water Works and Electric Co., New York. Get the classification of jobs in the municipal water works field straight by hearing Albert Davis of Austin, Texas, analyze these duties. Listen to Dale Maffit of Des Moines put social security legislation through a third degree examination, and don't miss the panel discussion by men who should know the answers on the all-important problem of getting along with labor unions.

Maintenance and operation? J. A. Krug and A. E. Gorman, the men who take those important final decisions in OWU will give the latest in their policies and practices. Louis R. Howson, last year's A.W.W.A. president, has what looks like a fool-proof form of contract that wrings out the jokers in elevated water tank painting. You can top this off with meaty discussions of the latest on plastic pipe and other war-induced water works developments, analysis and treatment of water, and similar timely subjects.

What about post-war planning for water works—that ticklish subject where everybody thinks that he knows the right answer? Listen to what authorities like Dr. Abel Wolman, this year's A.W.W.A. president, and Willard Chevalier, publisher of *Business Week*, have to say. You will go home better armed with material to defend your department when this subject comes up for discussion in your community.

Just to give you a hunch on how important this conference is in the national scheme of things, the Office of Civilian Defense is using it as a means of gathering its regional sanitary engineers to discuss vital sanitary engineering problems relating to civilian defense.

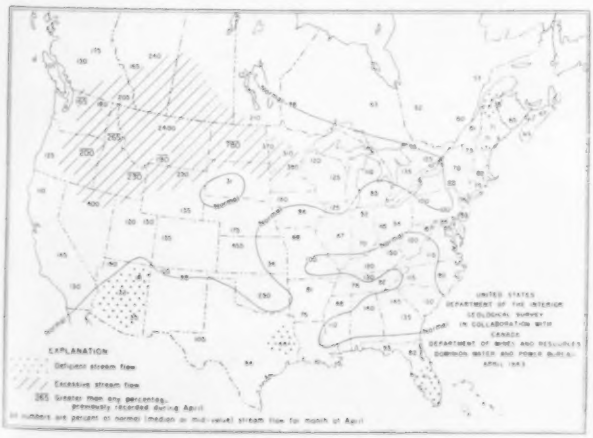
Water Resources—April

PRELUDES to the heavy midwestern floods began to announce themselves in stream flow analyses for April. Flows during this month were appreciably above normal throughout the western and northern sections of the United States—a decided contrast to northeast United States where subnormal temperatures retarded the melting of snow.

Floods associated with melting snow and ice jams were prevalent in western Minnesota, the eastern Dakotas, along the lower Missouri River, in northern and western Wyoming, western Montana, Idaho, northern Nevada, and Oregon.

The country-wide pattern of regional ground-water conditions was somewhat less favorable than it was at the end of March. Nevertheless regional ground-water storage is still average or better in the states along the Atlantic coast North of Florida, the Pacific coast, in the middle west, and some of the inter-mountain states. Increased plumbing is drawing heavily on these resources.

The water level rose sharply in key wells located in Pennsylvania and the northwest.



New Standards for Drinking Water

TO KEEP pace with improvements in water supply practice, the U. S. Public Health Service has recently issued a new set of drinking water standards, superseding those in use since 1925.

The recommendations comprise two sections, one containing a statement of the standards, and the other constituting a manual of water-works practice which represents the judgment of technical subcommittees. The Public Health Service states that this portion of the text is intended to serve as a guide rather than to set additional requirements for water supply certification.

The new recommendations place high standards on the plant and distribution systems as to faulty plumbing hazards, cross connections, or unapproved interconnections.

Significant among the changes is the optional use of either 5-10 ml or 5-100 ml samples for bacteriological analysis. The standards call for a minimum number to be examined monthly, depending on the population that the water system serves, and require the laboratories making these tests to be subject to inspection at any time.

Order U-1 No Hindrance to Adequate Repair

WATER-WORKS operators can quiet their fears that regulations under the new order U-1 will prevent the adequate maintenance of their plants to supply water to meet normal demands.

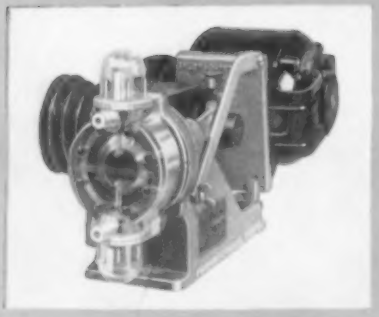
Order U-1 permits repairs where demand for water has increased, and small parts of the system are inadequate or depreciated beyond repair. Parts necessary to restore the original capacity may be replaced. This is in addition to the extent permitted by minor capital improvement allowance ($1,500 for material underground and $500 for other construction) to meet increase in water demand.

This gives water-works men ample means to provide for repairs to chlorinators, meters, filtration and purification equipment, gages, and other control items—services, short pipe runs and dead ends—necessary to keep this service in top operating condition for the duration.

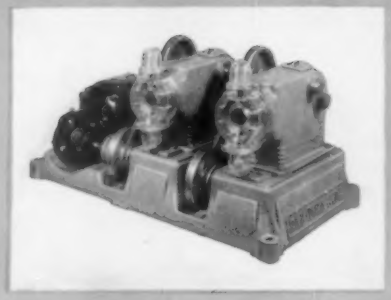
10 YEARS

10,000 FEEDERS

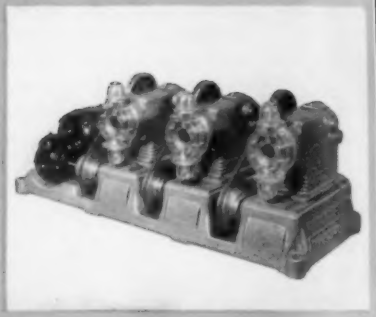
% PROPORTIONEERS %



Heavy Duty Midget
Chlor-O-Feeder



Duplex Multi
Control Feeder



Triplex Multi
Control Feeder

BOOTH 63
A.W.W.A.
CONVENTION
CLEVELAND

JUNE 15, TO 18,
1943

% PROPORTIONEERS, INC. %

96 CODDING ST., PROVIDENCE, R. I.

"Chemical Feeder Headquarters"

Street Cleaning and Refuse Disposal

Bloomfield, N. J., Plans Refuse Collection

BLOOMFIELD, N. J., plans to abandon the use of private contractors to collect garbage and refuse and to set this service on a municipal basis. After observing the success of the neighboring town of Montclair, officials in Bloomfield retained this town's city engineer, Walter Scholla, to assist them in establishing the system. Montclair's highly successful garbage collection program has saved the town $142,000 in five years of operation as compared to the lowest bids from private contractors.

Present plans are to buy used truck chassis and equip them with new automatic loading bodies. This will allow a crew of three men to perform the work formerly requiring four men. It is estimated that the new service will cost $63,000 per year as against $77,900, the lowest bid of private contractors.

Cooking Garbage for Hog Feed

THE boiling of garbage for 30 minutes in an open container will destroy trichina larvae in cuts of pork three inches thick and probably in pieces of greater thickness if the garbage is allowed to cool gradually, according to the March 5 issue of Public Health Reports issued by the U. S. Public Health Service. Experiments were conducted by Willard H. Wright, Chief of the Division of Zoology and John Bozicevich, Zoologist, National Institute of Health. The experiments indicated that such a procedure would seem to constitute an effective measure for preventing the transmission of trichina infection to hogs fed on garbage and thus aid in the control of both swine and human trichinosis.

Tests were conducted in order to provide definite information which could be employed in the framing of regulations for processing garbage in order to prevent its becoming a public health menace when used for hog feed. Previous literature on the heat-resistance of the trichina parasite dealt with the processing of the pork. However, little was known concerning the amount of cooking needed to destroy the parasite in pork scraps in garbage.

To uncover this, Dr. Wright and Mr. Bozicevich introduced trichinous pork of varying dimensions into garbage cooked by steam. Internal temperatures were determined by meat thermometers inserted in the cut. After cooking, representative samples were digested in artificial gastric juice and examined for trichina larvae, while other samples were fed to rats that were killed after a suitable period and examined for larvae. All pieces of pork were introduced into the garbage before steam was turned on and were removed at various periods of time after the garbage came to a boil.

In all experiments, no larvae survived when the internal temperature of the sample reached 132.8°F. In one series of tests, when the garbage was boiled for 30 minutes and allowed to cool for an additional 60 minutes, larvae were completely killed in all samples except the largest, measuring 6 x 5 x 4 inches.

The First of the Women White Wings

MANPOWER shortage may be a problem in some municipal street-cleaning departments, but not in Baltimore. This city is augmenting its dwindling forces with a corps of women street cleaners and enjoying outstanding success.

"The hiring of these women began as an experiment," states W. P. Fanning, street cleaning engineer. "We had no way of knowing how it would develop and certainly did not expect the fine results that we have received. In many parts of the city, we have received calls from residents expressing their admiration for the excellent work that the women are doing and requesting that they be retained permanently."

One of the 70 colored women employed by Baltimore to help keep the streets of this city clean. Both officials and residents alike have nothing but praise of the excellent work these women are doing.

The first contingent consisted of 75 women, all of them colored, representing about 20 per cent of the entire staff. They perform exactly the same type of work assigned to the men and are paid on the same scale. The city had no difficulty in obtaining them and already has acquired a waiting list of 244.

Non-Metal Garbage Cans

THE fact that metal garbage and refuse containers are difficult or impossible to obtain today has produced resourceful experiments in a search for substitutes, the American Public Works Assn. reports.

Los Angeles city officials are encouraging individuals and companies to manufacture containers made from paper, plywood, or a combination. Such substitutes are usually treated with waterproofing which is resistant to acetic acid. The municipal code has been amended to allow the use of such containers when approved by the board of public works and the city council. Metal containers formerly were required under the code.

St. Louis is experimenting with wooden containers, while Boston allows the use of old oil drums.

Ordinances Facilitate Tin Can Collection

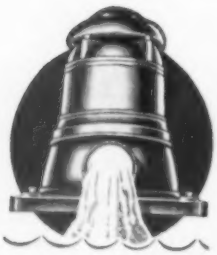
THE California cities of Berkeley and Fresno are among the growing list of municipalities that enforce tin-can collection by ordinances. According to the American Public Works Assn., tin cans may not be put in regular garbage containers in these cities. They must be placed in separate ones.

In Berkeley the cans must be prepared, cleaned, the labels and ends removed, the side flattened, and the container placed on the front curb no later than 6 a.m. on the collection day.

In Fresno the cans must be similarly prepared and placed in separate containers. These containers in turn must be placed either in the alley behind the residence, or in front of the homes if there is no alley, not more than 24 hours before collection day. Collections are made once a month in both cities. In both cases the sale of the tin cans has been meeting the collection costs.

WHEN—

HELL BROKE LOOSE IN TUNIS



LAYNE AFFILIATED COMPANIES

Layne-Arkansas Co., Stuttgart, Ark. • Layne-Atlantic Co., Norfolk, Va., Savannah, Ga., Orlando, Fla. • Layne-Bowler New England Corp., Boston, Mass. • Layne-Central Co., Memphis, Tenn. • Layne-Northern Co., Mishawaka, Ind. • Layne-Louisiana Co., Lake Charles, La. • Louisiana Well Co., Monroe, La. • Layne-New York Co., New York City and Pittsburgh, Pa. • Layne-Northwest Co., Milwaukee, Wis. • Layne-Ohio Co., Columbus, Ohio • Layne-Texas Co., Houston and Dallas, Texas • Layne-Western Co., Kansas City, Mo., Chicago, Ill., and Omaha, Neb. • Layne-Western Co. of Minnesota, Minneapolis, Minn. • International Water Supply, Ltd., London, Ontario, Canada.

Layne Wells and Pumps were in the thick of things when hell broke loose to crush the Axis troops in Tunis. Only the military authorities could tell of how they came through, but if they were not destroyed by the enemy—or our own terrific fire power, those sturdily built, tough and long lasting Wells and Pumps are still in there pitching—producing millions of gallons of water daily.

The Wells and Pumps in Tunis—and those throughout the African War Zone—Dakar, Algiers, Casablanca, Sousse, Kairouan, etc., were installed by Layne Engineers for peacetime duty, but they had the guts that made them give outstanding war-time service.

Whether for peace or war, Layne Well Water Systems and Pumps stand alone in skilful design, proven superior features, long life and highest efficiency. They are, according to the Layne slogan "Better Built for Better Service."

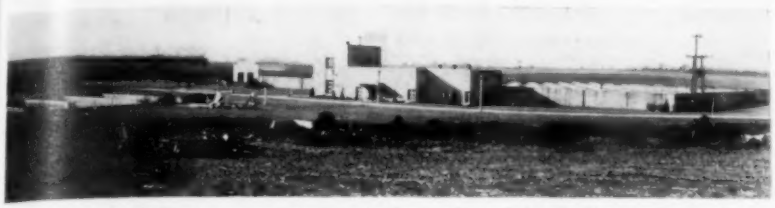
In the post-war era your Layne Wells and Pumps will be still higher in efficiency—longer in life and of further improved design. In the meantime, the Layne Organization is endeavoring to keep all industrial and municipal installations in repair and operating at peak efficiency. For literature, address, Layne & Bowler, Inc. General Offices, Memphis, Tenn.

LAYNE

WELL WATER SYSTEMS
DEEP WELL PUMPS

BUILDERS OF WELL WATER SYSTEMS FOR EVERY INDUSTRIAL AND MUNICIPAL NEED

Sewerage and Sewage Treatment



Looking at the LaPorte sewage treatment plant, where John E. Hupp, city engineer, reports that sludge is being used in its liquid form on the adjoining farmlands.

Irrigating With Liquid Sludge

LA PORTE, IND., joins the list of municipalities disposing of sludge by the simple procedure of using it in its liquid form on adjoining farmlands. At the join meeting of the Indiana Sewage Works Association held in Indianapolis last January, John E. Hupp, Jr., superintendent of sewage treatment at LaPorte City, stated that he originally used vacuum filtration and incineration to dispose of sludge—and followed this practice faithfully for three years.

When he cut off the incinerator, he saved $625 per year which was spent for oil and maintenance on about three-quarters of the equipment; however, this doubled his transportation costs. By abandoning the vacuum filter and disposing of the sludge by dumping it on to sand beds, he eliminated an annual expense of $920 for chemicals, but again increased the trucking cost because the sludge not only had to be hauled to the beds, but also hauled off again when it was dried.

The present method of taking the liquid sludge to the farmers' land costs little more per ton of dry sludge removed than the cost of removing the ash from the incinerator, since formerly the ash had to be hauled 3½ miles to a suitable dumping ground while the liquid sludge needs to be hauled but only ¼ of a mile.

Grease for Salvage

IF THE duration and outcome of the war depends on the supply of glycerine for explosives, and cost is not the major item, here is the way Floyd J. Brinley and A. D. Potter of the Texas State Board of Health say that municipal sewage-treatment plants can help.

On the basis of laboratory tests of the sewage at Austin, Texas, about 50,000 pounds of saponifiable fats per month can be extracted from this sewage. Austin has a population of about 100,000 people, and the sewage treatment consists of primary settling and activated sludge. About 83 per cent of the total fats and oils are found in the sludge and 10 per cent are in the scum. These saponified fats, less a small amount of free fatty acids, are the portions of the grease that yield essential glycerine.

"I do not intend to infer that this is anything more than a possible war measure," said Mr. Brinley. "As a year to year scheme under pre-war conditions it undoubtedly would be a financial white elephant. But if the outcome of the war depends upon the amount of glycerine supply, this should give a measure of what municipal sewage-treatment plants can do."

Sewerage Sabotage

ALTHOUGH officials generally consider sewerage systems and their treatment plants among the last places subject to attack by saboteurs, A. M. Rawn, General Manager, Los Angeles Sanitation Districts, stated at the annual conference of Sewage Works Federations held last year in Cleveland, that there was a successful effort to sabotage a sewage pumping station in one of the medium sized cities near Los Angeles. He reports that caps of considerable strength were introduced into the pump suction—probably from some point upstream—and revolving in the volutor case, they apparently struck a little outlet valve at the top which let off the air—thus almost completely destroying two pumps.

How Old Is Sewer Design?

ONE is accustomed to think of a sewer as a development centuries old, and it comes as something of a shock to learn that as late as 1860 hardly an American city had an adequate drainage system, even for storm water. J. J. Cosgrove writes in *History of Sanitation*:

Reliable data concerning the construction of sewers were not obtainable in the United States until long after the close of the Civil War. In 1859, when Julius W. Adams was commissioned to prepare plans for sewering the city of Brooklyn, N. Y., which at that time covered an area of twenty square miles, a great proportion of which was suburban territory, the engineering profession was wholly without data of any kind in proportioning sewers for the drainage of cities.

—Quoted in *The Standard of Living in 1860*, by Edgar W. Martin.

WMC Calls for Sanitary Engineers

IF YOUR city has on its staff men trained in water supply, sewerage, or any of the other related fields of public health service, who are physically fit and under 38 years of ago, you can except that they will be drawn into the armed forces before the end of the year—if plans for the War Manpower Commission materialize. Cities can best prepare themselves for this further withdrawal by training women or older men to replace this staff.

According to Capt. C. W. Klassen, Sanitary Corps, detailed to the War Manpower Commission, a critical shortage of trained sanitary engineers has arisen because of the requirements of the Armed Forces. Despite heavy withdrawal of trained personnel from many state and local health agencies, and from local water and sewerage departments, the military requirements remain unfulfilled.

WMC designates a "sanitary engineer" as a graduate of a proved scientific school able to design, operate, or manage either water or sewage treatment plants, or other works relating to public health. In lieu of graduation from a technical school, WMC recognizes eight years of suitable engineering experience and evidence of proficiency.

These sanitary engineers will be used by the Sanitary Corps and the Corps of Engineers in the U. S. Army, also by the Civil Engineering Corps of the U. S. Navy, and for the semi-military needs of the U. S. Public Health Service. They will not only meet sanitation problems covering military needs, but also will reestablish civil sanitation in occupied countries.

The War Will End in 194?

Plan NOW to use

UNIVERSAL CAST IRON PIPE

in your post-war waterworks system

NOW is the time to prepare your plans and specifications for water works improvements to start immediately at the close of the war. Be sure to include in those specifications Universal Cast Iron Pipe, the easy-to-lay bolted-joint pipe. Its advantages:

1. No calking or pouring of lead or lead substitutes. No gaskets used.
2. No bell holes to dig. Can be laid in a narrow trench. Cost of wide trenching is eliminated.
3. Can be laid with SPEED. Easier and cheaper to install because only two bolts need to be inserted in the lugs and tightened with a ratchet wrench (the only tool needed) and the completed joint is made in a few minutes. Experienced workmen are not needed.
4. Nothing to deteriorate; nothing to work loose; no leakage, no maintenance cost.
5. Flexibility: Universal Pipe is very flexible. It withstands expansion, contraction, unequal settlement, vibration and shock, and electrolysis. Many curves are laid with straight lengths and do not need special fittings.
6. Universal Pipe can be laid on rocky soil, under water and in sub-zero weather.

Specify UNIVERSAL PIPE for water mains and sewers.

Furnished in hot tar dipped, cement lined, and enameline lining.

Quick service to customers: by rail or water, from our foundries and warehouses located from coast to coast.

Our Universal Sales Department will be glad to furnish catalogs and any information that you may require to help you plan your post-war waterworks system using Universal Cast Iron Pipe.

THE CENTRAL FOUNDRY CO.

386 Fourth Avenue -:- New York

Airports

The Future Need for Municipal Airports

A CITY without an airport, states W. A. Patterson, President of United Air Lines, will in the future be like a seaboard town without a harbor. This applies not only to the potential service of air transport companies but to private flying of the future as well. The extent of private flying, he feels, will be influenced to a great extent by airport facilities throughout the country.

"In my opinion," says Mr. Patterson, "every alert city should have a municipally owned airport."

Mr. Patterson points out that the length of runways are affected greatly by the altitude of the city. As a standard, runways 6,000 feet long for airports at sea level should be adequate for any future airplane development. In fact, he says, airplane designers are making an effort to design airplanes using such a runway length as a maximum.

Runway lengths, of course, must be increased as the port elevation is raised above sea level in line with recommendations of the Civil Aeronautics Administration.

Jointly Owned Municipal Airports

THE subject of jointly owned municipal airports, among other aeronautical matters, was given careful consideration in a report issued by the Illinois Legislative Council on Aviation Problems.

Present Illinois laws authorizing municipalities to construct and operate airports jointly, give no directions regarding the terms of the agreements, except that they should be written. The report states that, although most joint-airport agreements have provided for an equal sharing of costs, there is no reason for this to be true in every case. The example was noted of the Helena-West Helena jointly operated airport in Arkansas, for which the cooperating cities make contributions on the basis of assessed property valuations. Likewise for the Tri-City Airport in Tennessee, constructed, maintained and operated by Johnson City, Kingsport, Bristol and Sullivan County, costs were allocated on the basis of population.

To avoid unforseen difficulties it was recommended that the agreements be written as completely as possible. It was also suggested that such agreements could specifically include provisions for their amendment, to meet any changing conditions. The inclusion of a terminal date was recommended as a possibility under some conditions.

Dayton's Airport Ready for War

BEFORE the opening of hostilities, Dayton already had a well-rounded program fitting this important municipal service to meet the heavy impact of war. This consisted of added acreage, the construction of a modern Administration Building and increased lighting facilities, the lengthening and widening of runways, and the removal of certain obstructions to good flying conditions.

When the need for the airport from a military standpoint became apparent, Dayton was ready to cooperate with the War Department, and now George M. McSherry, Airport Manager, reports that it is being used on a mutual basis for both military and essential civilian flying services. Many of the needed improvements already planned are being rushed to completion as government contracts.

"It is a recognized fact,' states Mr. McSherry, "that an airplane cannot fly safely unless it can land safely, and that is dependent upon the facilities provided by airports."

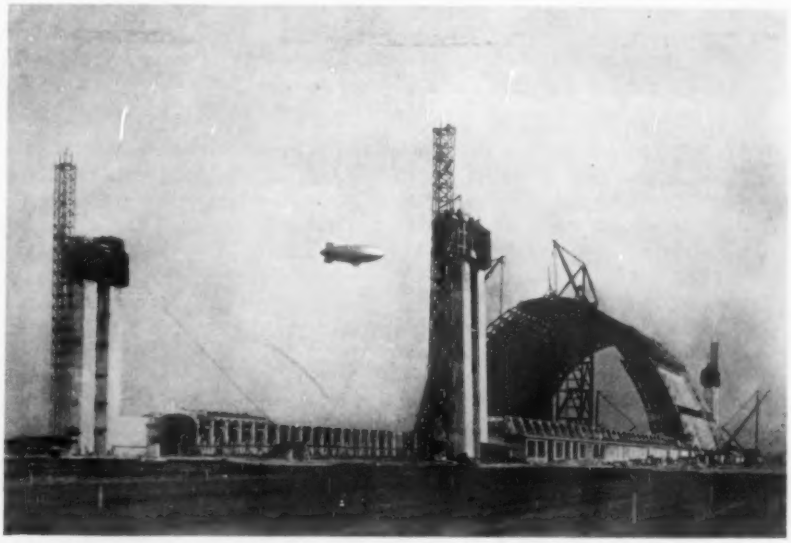
Airport Sanitation

A NEW manual has been issued by the United States Public Health Service for the complete sanitary control of facilities concerned with land and air conveyances engaged in interstate traffic. The manual gives details on what is required, outlines the reason for each ruling, and gives definite information on what constitutes compliance.

According to Surgeon General Thomas Parran, the application of the regulations will vary according to the circumstances incident to the war. He further states that it will be subject to periodic review and revision, if desirable, along lines that experience may suggest.

The manual deals specifically with the source and delivery of water for both the planes and the airport, the sanitary facilities at the airport and in the planes, dining space facilities, and the sanitary quality of food and drink.

Blimp Hangars for Airports



Will blimp hangars have a place in the municipal airport of the future? If they will they may look something like the one shown above during construction. This is a shot taken of the U. S. Navy all-timber blimp hangars useful in fighting the menace of the German sea raiders. The hangar is constructed of wood treated to prevent both rot and fire hazards and is built by using Teco connectors. It will be 1,000 feet long, 153 feet high and have a clear span of 237 feet.

COMING AT YOU, SCHICKLGRUBER!

MAYBE you overlooked this machine when you planned your world conquest, Adolf. But pretty soon you'll be seeing it in your nightmares—seventeen tons of "Caterpillar" Diesel D8 Tractor burying you under earth and rock!

You were told those soft, money-grubbing Americans knew nothing of making war. Well, we're learning. But there was one important part of war we didn't have to learn, and that was *moving dirt*. Did you ever stop to figure how many million tons of it would have to be moved to win this war, Adolf? You'd be surprised.

We've been using "Caterpillar" Diesels for quite a while. They were ready when we had to build Army camps and Navy bases and airports and war plants in such a hurry. They moved billions of yards of earth. And, meanwhile, over in England they did their part in stopping your invasion. How do you suppose those bombed airfields were repaired so fast, and the rubble of cities cleared away, and channel fortifications thrown up?

"Caterpillar" Diesel Tractors sort of got in your way in Egypt, too. Did Rommel ever tell you about the forty miles of tank-traps they dug on the Alamein line? Or the trans-African airway they helped build?

Next time you talk to Tojo ask him how the Yank engineers tear roads out of the jungle and the artillery hauls up its big guns with "Caterpillar" Diesels. He learned on New Guinea and Guadalcanal.

So look in your crystal ball, Schicklgruber, and remember never to start a war unless you've got the horsepower to finish it.

CATERPILLAR ARMY NAVY **DIESEL**

REG. U.S. PAT. OFF.

CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS

TO WIN THE WAR: WORK—FIGHT—BUY U. S. WAR BONDS!

Public Safety

Fine Fog Fights Fire

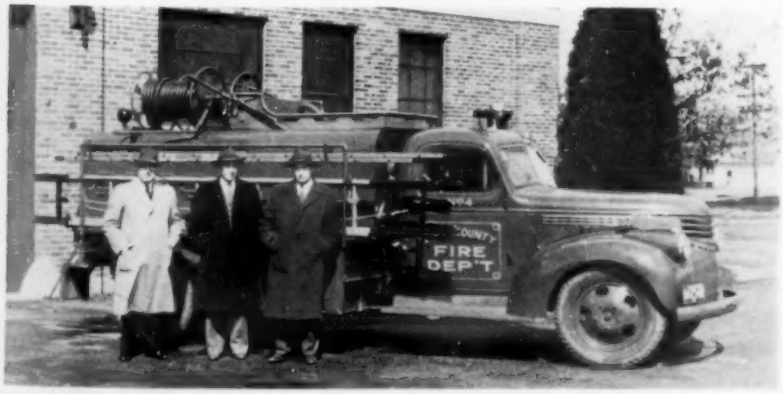
FOG produced by 800 pounds pressure consists of very little water, but is so effective that the County of Kent (Grand Rapids), Mich., purchased five high-pressure fog fire fighters from the John Bean Manufacturing Co., Lansing, for rural fire fighting where a little water must go a long way.

These five units serve 15 townships and are housed and maintained in five County Road Commission district garages, with a driver-operator on duty 24 hours a day in each garage.

The fog gun shoots any concentration from a solid stream to fog. Each unit carries 400 gallons of water, two 200-foot lines of hose, and extension and roof ladders. This type of apparatus possesses the double advantage of using little water and doing little water damage.

JOHN B. HEFFRON,
Purchasing Agent, County of Kent, Grand Rapids, Mich.

Stream and spray from high-pressure fog apparatus in front of a Kent County Road Commission garage



Fog fire fighter built for Kent County, Mich., by John Bean Mfg. Co., left to right, Otto S. Hess, Engineer-Manager of County Road Commission, Irving C. Pennington, Chairman of County Board of Supervisors and John B. Heffron, County Purchasing Agent

NEW FIRE APPARATUS AT WYANDOTTE

"THIS is the new 1,000-gallon Mack pumping engine at Wyandotte, Mich.," writes Fire Chief Gustav Anselm. "Other apparatus in service in our department include a 65-foot American-LaFrance aerial ladder truck, three pumping engines, and a rescue car—to which we recently added an E & J resuscitator, inhalator and aspirator. Early delivery is expected on a new 750-gallon Seagrave, a 500-gallon General Detroit, and two trailer pumps. Auxiliary equipment now installed includes 1,600 hand pump fire extinguishers, two skid-mounted and two front-mounted pumps, 2,800 feet of 2½-inch and 1,400 feet of 1½-inch fire hose, for use by 80 auxiliary firemen. The city of Wyandotte has five E & E evacuators in rescue service. Total alarms in 1942 was 305, including 40 false alarms. Risk and loss figures are shown below:

	Property	Contents
Value property involved	834,715	540,000
Amount of insurance	537,750	285,700
Total loss	11,541	13,092"

How Birmingham Got Its Records Microfilmed

OUR engineering records were recently photographed by a Recordak Model D machine using 35-millimeter films. All records in the engineering office were photographed including profiles, assessment maps, and all major drawings. Approximately 16,000 pictures were made which required the use of one machine for one week and the purchase of 15 100-foot films. We were unable to secure a machine from the manufacturer directly, as these machines are very much in demand, but were fortunate enough to borrow a machine owned by a corporation. The work was efficient and satisfactory."

W. COOPER GREEN,
President City Commission, Mayor of Birmingham, Ala.

Keep Up-to-Date on New Equipment

Please check over the following list of interesting catalogs obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York, and we will see that the catalogs are sent to you without expense or obligation on your part. 6/43

655 656 657 658 659 660 661 662 663 664 665
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697 698 699 700

Name ..... Position .....

Address .....

Automatic Valves

655. There is no single feature of a water-works system that will help you solve the problems of the manpower shortage and inefficient operation better than the careful use of automatic valves. Get the literature furnished by the Ross Valve Co., Inc., P. O. Box 596, Troy, N. Y., describing their altitude valves—both single and double action—their reducing valves, surge relief valves, and other similar units that will keep your water works operating smoothly with a minimum of attention.

Pumps, Their Maintenance and Performance

656. If you need help on how to keep existing pumps operating to produce their utmost in water supply, or would like data on how to rehabilitate your supply in case present wartime demands have overreached the capacity of your plant, write to the Peerless Pump Division, Food Machinery Corp., Los Angeles, Calif. This company has a wide variety of literature that will undoubtedly answer your questions. When writing try to specify your particular problems.

Wartime Water Meters

657. If you need water meters in your distribution system you will be interested in the two war model meters being manufactured by the Pittsburgh Equitable Meter Co., Pittsburgh, Pa. Both the fronside meter and the Empire victory meter have cast iron cases that are treated to resist corrosion and rust. Both are fitted with the Pittsburgh-National molded glass box and there has been no sacrifice in design or construction of the proven inner mechanism. Write for your copy of bulletins describing these meters to the Pittsburgh Equitable Meter Company.

Plastic Pipe for the Water-Works Field

658. Water-works officials should make it a point to get a copy of the booklet on the new thermoplastic pipe manufactured by the Acadia Synthetic products, Division of Western Felt Works, 4115 Ogden Ave., Chicago, Ill. This booklet contains detailed information on characteristics of this interesting new development, including: places to use it; how to weld it; data on sizes, weights, and pressures; and information on flanges and special fittings. This pipe is made of a chemical resistant thermoplastic resin and comes in sizes from ½-inch through 2 inches. Larger sizes will be available later.

Valves and Hydrants

659. If you want information on either valves or hydrants, describing completely how they will fit your water-works or sewage plant, write to the Iowa Valve Co., Hubbell Bldg., Des Moines, Iowa, for their descriptive catalog.

Street Lighting

660. Is street lighting your problem? You can get scientific and useful cooperation from the Slater laboratories, specialists in the design of efficient illumination. If you need this, write to the Slater Electric & Mfg. Co., Brooklyn, N. Y., for their literature describing the problems you must meet.

Gate Valves

661. You should have complete information on the mechanics and operation of the Mueller-Columbian gate valves, manufactured by Mueller Co., Chattanooga, Tenn. This equipment has exclusive features which have enabled it to maintain its reputation among water-works men for dependable service at low maintenance cost.

Road and Street Stabilization

662. If you want to know the latest details on how to maintain roads and streets for wartime traffic, write for bulletin No. 29 published by the Calcium Chloride Assoc., 4145 Penobscot Bldg., Detroit, Mich. This up-to-the-minute manual contains 62 pages of information that will help you maintain streets with a minimum of labor, equipment, and material.

Chlorine Control Equipment

663. Water-works operators will be interested in bulletin 796-B being offered by the Everson Mfg. Co., 203 W. Huron St., Chicago, Ill., on their SterElators. It operates under a high vacuum and any loss from either water failure or gas line leakage automatically shuts off chlorine. These SterElators come in all sizes and are easy to operate and install.

Curing Sewer "Absenteeism"

664. If you have sewer lines that aren't giving 100 per cent performance you will be interested in the information contained in W. H. Stewart's new catalog on sewer cleaning equipment. It describes buckets, rods, rod pushers, and a wide variety of other types of sewer cleaning equipment—either hand or pump operated—that will put your sewer lines back in first-class operating condition. Write W. H. Stewart, 1051 S. Clinton St., Syracuse, N. Y.

Water Meter Testing and Repairing

665. The informative little booklet "Economics of Water Meter Testing and Repairing" published by the Neptune Meter Co., 50 W. 50th St., New York, will be of practical assistance to all city officials charged with the responsibility of maintaining these important pieces of equipment. Well illustrated and carefully written, it represents a valuable text that every water-works operator should have.

New Photocopy Machine

666. City officials faced with a shortage of help in their departments, will find the APeCo photocopy machine of great assistance in releasing men from detailed copy work. It will reproduce 100 or more copies of anything written, printed, drawn, or photographed. This work can be done by inexperienced help in the shortest possible time; the first copy is produced in three minutes and 120 are run off in an hour. Write American Photocopy Equipment Co., 2849 N. Clark St., Dept. EB-1, Chicago, Ill., for the folder describing its equipment.

Grit Washers for Sewage Plants

667. If the collection and disposal of grit in your sewerage system is bothering you, you will be interested in bulletin 744 issued by The Jeffrey Manufacturing Co., 970-99 North Fourth St., Columbus, Ohio, describing its Jigrit No. 1 grit washer. This sturdy little basketlike jig produces a clean, readily disposable product, for use as fill for walkways, roads, or any number of other places. It is particularly well designed for the small plant. For large plants Jigrit No. 2, described in Bulletin 698, will be furnished on request.

24-Hour Visible Signs

668. In order to help round-the-clock safe transportation why not thoroughly investigate the new highly readable Scotchlite reflective sign sheeting? The Minnesota Mining & Manufacturing Co., Dept. AC-543, St. Paul, Minn., will send literature and information on this type of sign and is ready to offer a sound demonstration testing the efficiency of this method.

Keeping Sewers Clean

669. The new catalog prepared by the Expanding Sewer Machine Co., 108 East Walnut St., Nappanee, Ind., will give you comprehensive details describing this company's root cutter and sewer cleaner. The company asserts that it will meet the requirements of every sewer cleaning job—cleaning the entire side walls, cutting and removing the roots and caked sediment—and bringing back the sewer lines to 100 per cent condition.

Outdoor Lighting

670. The interesting copy of the L-M Prismalite Bulletin issued by the Line Material Co., 802 N. 8th St., Milwaukee, Wis., fits squarely into the municipal field. This gives you practical information that will help solve your toughest outdoor lighting problems.

(Continued on page 21)

WHICH OF THE CATALOGS WOULD YOU LIKE?

(*Continued from page 18*)

Marking Traffic Lanes

671. Bulletin No. 112 will be of great assistance to city officials charged with the important responsibility of controlling both pedestrian and auto traffic during these wartime days. The versatile Meili-Blumberg traffic marker is capable of handling any type of striping job including traffic lanes, crosswalks, safety zones, etc. It is quickly adaptable for marking athletic fields, tennis courts, playgrounds and is quickly convertible to an all-purpose paint sprayer for painting machinery, park benches, and other municipal equipment. Write to Meili-Blumberg Corp., Box A-5, New Holstein, Wis.

Duplicators and Printing Equipment

672. One of the useful developments in duplicating work has been the new mimeograph photochemical printer. This equipment provides a method of making duplicate copies of an ink tracing in large or small quantities at low cost, and has a multitude of uses applicable to the municipality. For full information on this mimeograph photochemical printer write to the A. B. Dick Co., Dept. AC-543, 720 W. Jackson Blvd., Chicago, Ill.

Hydrants, Drinking Fountains, Washers

673. Catalog "L" published by The Murdock Mfg. & Supply Co., 426 Plum St., Cincinnati, Ohio, gives you just the information you want to be fully informed on this company's self-closing, anti-freeze hydrant; its air lock drinking fountains; and its lock-lid street washers. It is well illustrated and gives not only a description of the unit but a list of each of its individual working parts.

Cathodic Protection of Steel Tanks

674. Water-works officials should secure the bulletin "Cathodic Protection of Steel Water Tanks" issued by Johnston & Jennings Co., Rusta-Restor Division, 861 Addison Rd., Cleveland, Ohio. This interesting pamphlet explains in detail the reason for the formation of rust and corrosion in steel water tanks, then describes how Rusta Restor prevents these conditions from existing in tanks treated by this electrical method. The bulletin also gives details on cost and operation data.

Prevent Plant Deterioration

675. Wailes Dover-Hermiston Corporation has released a folder which will be of great assistance to city officials in the perplexing problem of choosing the right protective coating for their sewage plants and equipment. This folder lists a representative assortment of the more popular items of equipment, and recommends the proper coatings and paints for the specific parts of plants and structures and also a table of paint recommendations based upon the type of equipment and exposure conditions. It also includes detailed descriptions of the coatings. Write Wailes Dover-Hermiston Corp., Westfield, N. J., for form No. 342.

Check Valves, the Mechanical Operators

676. Water works officials should have full information on the many and efficient uses of valves similar to the electric double cushioned check valve made by the Golden-Anderson Valve Specialty Co., Fulton Bldg., Pittsburgh, Pa. These reliable watchmen will control storage in tanks located remotely from the balance of the plant and also govern pumping of water in other storage tanks. Sizes vary from 3 to 36 inches.

Chlorine Feeders

677. Here is a little bulletin describing Proportioneers heavy-duty midget Chlor-O-Feeders, popularly known as "the little red pump." It has a capacity varying from zero to 6½ gallons per hour and is not only fitted for the use of hypochloride, but also a wide range of other chemicals commonly used in the water and sewage field. Write to Proportioneers, Inc., 99 Codding St., Providence, R. I.

Worm Gears

678. Leaflet E-1219 entitled "De Laval Worm Gears" and published by the De Laval Steam and Turbine Co., Trenton, N. J., discusses worm gear units for 3- and 3½-inch center distances. These gears are supplied for either top or bottom drive and in ratios from 3⅛ to 1 up to 60 to 1. They are intended primarily for the operation of low power machinery such as small mixers, driers, automatic furnaces, ovens, and conveyors.

Care of Motors

679. To assist you in solving your problems on the care of motors, General Electric will furnish any of the following three services and material. The first is a booklet "How to Care for Motors" (GEA-2856 A) which will assist in establishing definite schedules of maintenance. Second, the new G-E Motorule (GEL-763) can help you estimate required horsepower for every job. Third, the convenient Motor Record Cards (GES-1526A) carry all your data on specifications and servicing of motors. Write to General Electric, Sec. AC 750-208, Schenectady, N. Y.

(*Continued on page 22*)

Your signs and markers are "on the job" 24 hours a day when reflectorized with "SCOTCHLITE." By night "SCOTCHLITE" reflects head light beams without glare, showing the identical shape and design of the marker. There is no distortion—no loss of the markers day-time values.

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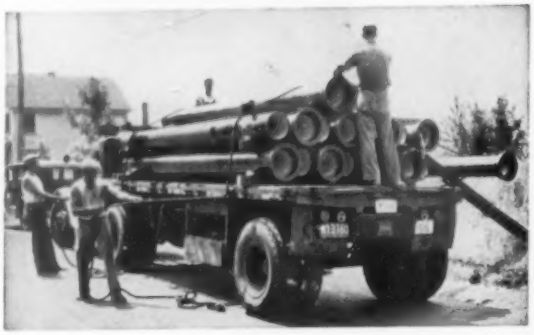

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75 Federal St., Boston

WHICH OF THE CATALOGS WOULD YOU LIKE?

(Continued from page 21)

Using Ferric Chloride

680. If you want some useful information on how to use ferric chloride in water and sewage treatment write to Dow Chemical Co., Midland, Mich., for their pamphlet entitled "The Use of Ferric Chloride in Water and Sewage Treatment." This outlines in plain and simple language the principal applications and advantages, and gives a full description of its properties.

Air Raid Sirens

681. Since sirens and warning systems have become such an important feature in a municipality, officials should not be without Bulletin 29 published by the Foster Engineering Co., 133 Monroe St., Newark, N. J. Sirens manufactured by this firm require few materials and those are given a low priority. They can be operated manually or by electric remote control.

Water Softeners

682. Both water-works and power plant officials will be interested in the new bulletin issued by the Graver Tank & Mfg. Co., Inc., 4809-35 Tod Ave., East Chicago, Ind., on the hot process water softeners. Well illustrated, it describes the technical background of this efficient softener, gives design data, and shows specific applications.

Chlorination Reserves

683. Do you know how large the reserve capacity of your chlorinators is and how to adjust them to provide this needed extra capacity? Write to the Wallace & Tiernan Co., Inc., Belleville, N. J. They will give you available constructive suggestions which will inexpensively overcome this problem.

Designing Pipelines

684. If your work involves either the design or construction of systems using cast iron pipe, you will need your copy of the Law of Design for cast iron pipe recently prepared by the American Standards Association. The American Cast Iron Pipe Co., Birmingham, Ala., will send you your copy that will help you get the exact type to meet conditions called for in your construction project.

Soil Stabilization for Road Surfaces

685. An interesting little booklet is available from Solvay Sales Corp., 40 Rector St., New York, entitled "Better Bases for Better Surfaces." This covers the value of adequately stabilized bases for both rigid and flexible pavement; gives information on the grading of aggregates; and tells the way calcium chloride should be used in order to hold down costs, increase density, and reduce frost action.

Water Meters

686. Water-works officials will find the bulletin entitled "Water Meters" published by the Buffalo Meter Co., 2902 Main St., Buffalo, N. Y., both helpful and interesting. This attractive and well prepared folder describes the mechanics of both the American and Niagara meters, shows their working mechanisms, and tells how each can be specifically adopted to particular meter reading problems.

Chemical Feeders

687. Chem-Feeds, Inc., 77 Reservoir Ave., Providence, R. I., will furnish you with data on the Var-I-Feeder, a new portable sterilizer that may be used for water main sterilization and chemical treatment. The company points out that this feeder is compact and may be easily carried, has finger-tip control of speed and feed, illuminated instrument type panel, visible illuminated reagent head, and can be connected to gasoline engine if motor drive is not available. Write this company for full details.

Uniforms for Municipal Employees

688. You can get a colorful folder from Reeves Brothers, Inc., 54 Worth St., New York City, describing the material that this company uses in manufacturing uniforms suitable for city officials. The company asserts that all material meets rigid Government standards.

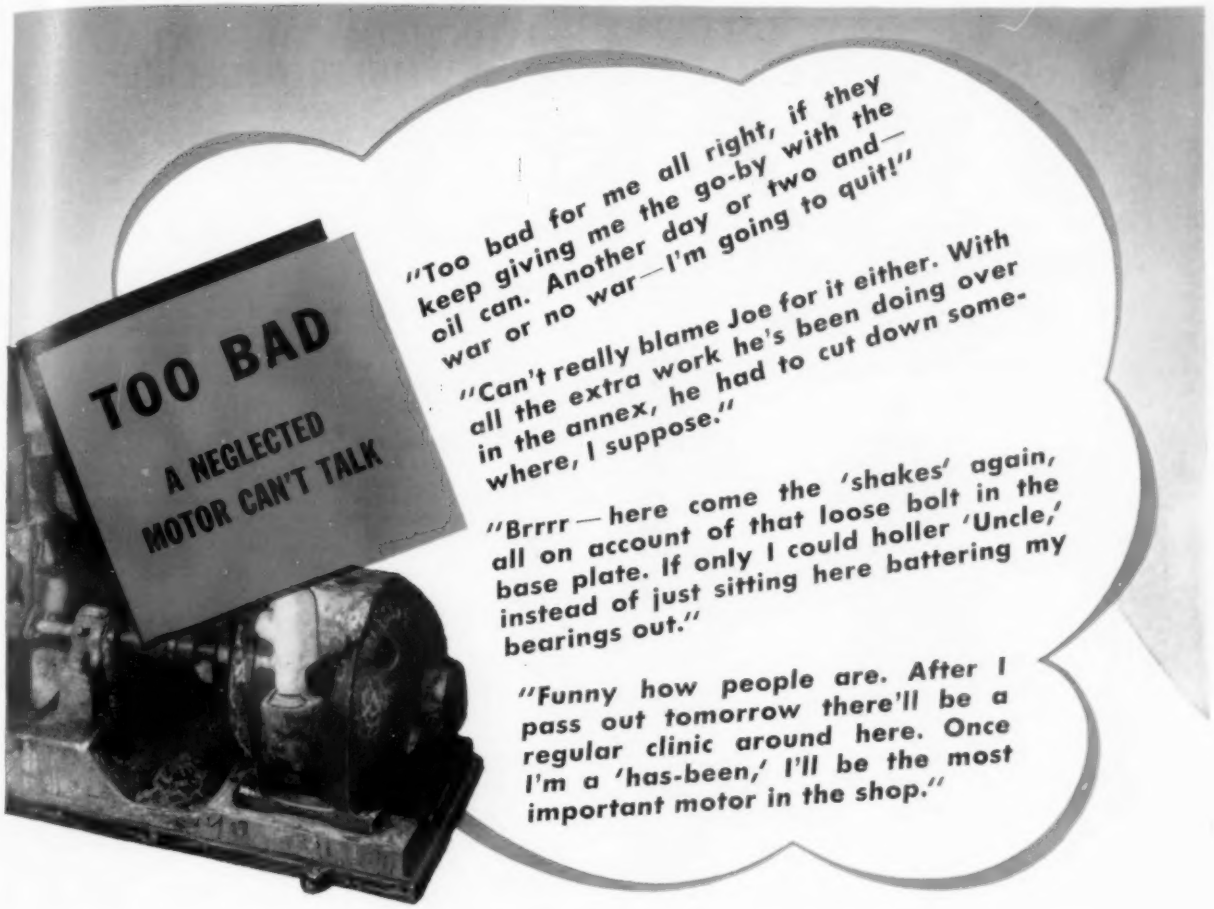
Liquid Level Control

689 If the control of liquid levels in wells, tanks, and reservoirs is your problem, write for literature from the B/W Controller Corp., 2200 East Maple Rd., Birmingham, Mich. These controls are all-electric and require no floats.

Portable Pumps

690. You will be interetsed in Bulletin No. 340-E published by the Homelite Corp., Port Chester, N. Y., describing these versatile little portable pumps. They are useful for dewatering ditches, cellars, and other excavations—as well as for a multitude of uses in construction work.

(Continued on page 24)


TOO BAD
A NEGLECTED MOTOR CAN'T TALK
"Too bad for me all right, if they keep giving me the go-by with the oil can. Another day or two and—war or no war—I'm going to quit!"
"Can't really blame Joe for it either. With all the extra work he's been doing over in the annex, he had to cut down somewhere, I suppose."
"Brrrr—here come the 'shakes' again, all on account of that loose bolt in the base plate. If only I could holler 'Uncle,' instead of just sitting here battering my bearings out."
"Funny how people are. After I pass out tomorrow there'll be a regular clinic around here. Once I'm a 'has-been,' I'll be the most important motor in the shop."

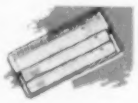
Preventive Care of Motors

. . . IS A MANAGEMENT PROBLEM

HERE'S HOW G.E. CAN HELP YOU SOLVE IT

A regular schedule for oiling, cleaning, and inspection of every motor is half the battle in keeping motors fit.

The G-E booklet "How to Care for Motors" tells what to do and when to do it. You can use it as a basis for issuing definite instructions, and for analyzing the hours of work involved so that your maintenance crews can be adequately staffed. Ask for GEA-2856A.



To get the most out of motors, and to meet new WPB requirements, the required horsepower for every job must be accurately known. On metal-cutting operations, the new G-E MOTORULE is just what you need to determine your requirements. Simple to use, it saves time and saves motor horsepower. Ask for GEL-763.

Free G-E Motor Record Cards (GES-1526A) make it easy to keep a convenient record of the specifications and service history of every motor in your plant.

BUILDER OF TRI-CLAD MOTORS

GENERAL ELECTRIC

General Electric, Sec. AC 750-208, Schenectady, N. Y.

Yes, please send me:

- ☐ "How to Care for Motors" (GEA-2856A)
- ☐ G-E MOTORULE (GEL-763)
- ☐ A supply of..... Motor Record Cards (GES-1526A)

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IOWA VALVE CO.

General Offices: Hubbell Bldg., Des Moines, Iowa

Plant: Oskaloosa, Iowa

WHICH OF THE CATALOGS WOULD YOU LIKE?

(Continued from page 22)

Joining and Repairing Pipe

691 Form 402B issued by the Dresser Mfg. Co., Bradford, Pa., will give you complete information on how to join and repair pipe in a quick, easy, and permanent way. It gives you the procedure for making these connections step by step, lists the various types of couplings and repair devices, their uses and advantages. Write for your copy of "How to Join and Repair Pipe."

Asphalt Heater

692. The Aeroil "Heet-Master" kettle will be of great assistance to road and airport officials in getting their work done quickly. This Heet Master heats and melts asphalt twice as fast as ordinary equipment of the same capacity. Write to Aeroil Burner Co., Inc., West New York, N. J., for bulletin No. 196A describing this equipment.

Low-Maintenance Water Meters

693. Water works superintendents will find the low maintenance cost of the Badger water meter an important feature. These accurate and durable meters can play an important part in your efforts to conserve water and revenue during these critical times. Write today to the Badger Meter Mfg. Co., Milwaukee, Wis., for their literature.

Backsiphonage Protection

694. If there is any doubt in your mind about how well protected your water supply system is against the danger of backflow or backsiphonage, you should by all means get the 8-page folder distributed by the Clayton Mfg. Co., Alhambra, Calif. This describes the Clayton unit that provides complete break to atmosphere in the event of a pressure differential. It is positive in action, and induces no line shock or water hammer.

Modern Municipal Electric Installations

695. Fairbanks, Morse & Co., 600 South Michigan Ave., Chicago, Ill., has prepared an excellent and well illustrated booklet, showing typical municipal electric diesel power plants installed by this company. It not only shows the plant but gives a certain amount of details describing the plant performances. The company requests interested officials to apply for this publication on their own city letterheads and state what their position is in the municipality for which they are working.

Sewage Gas Engines

696. Here is an engine particularly well suited to operate on sewage gas. Described in bulletin S-550-B21, published by the Worthington Pump and Machinery Corp., Harrison, N. J., it will carry a continuous, heavy-duty load and is adaptable to generators, pumps, and other power drives, which makes it particularly well suited for use in water and sewage plants. It will operate on natural, manufactured, or refinery gas if a standby source of fuel is necessary.

Turbine-Type and Centrifugal Pumps

697. You will be interested in the excellently prepared, condensed catalog recently issued by the Aurora Pump Co., Aurora, Ill., entitled "Turbine-Type and Centrifugal Pumps." This not only gives you comprehensive information on how to select the proper pump for the work you have in mind, but also has clearly prepared drawings showing how the pumps are constructed and describes their operation in simple language.

Concrete Manhole Fittings

698. You can get an interesting bulletin from the United Concrete Form Products Co., 101 Park Ave., New York, giving full details of their new concrete manhole frame and cover that will carry the heaviest of highway traffic. Designed according to definite engineering principles, it develops a surprising amount of strength and still remains relatively light in weight.

Transite Pipe for Water Systems

699. The Transite Pressure Pipe Book, TR-11-A, issued by Johns-Manville, 22 E. 40 St., New York, will give you full particulars on Transite pipe for water lines. This pipe, made of asbestos and cement, is easy to assemble and handle, is assured of long life with minimum maintenance cost, and it is corrosion-resistant and strong. These combined features make it valuable for selection as water transportation and distribution systems.

Preventing Underwater Corrosion

700. A booklet, "Corrosion of Steel Water-Storage Tanks and the Rustop System," issued by Electro Rust-Proofing Co., Dayton, Ohio, will be of interest to all city officials. This discusses in detail the Rustop System, its operation, installation, and costs and shows, by a discussion of corrosion underwater and preventative methods, how this system will eliminate these difficulties.

Vol. LVIII, No. 6 The American City June, 1943

War and Post-War Fire Departments

Maintain the Gains in Public Estimation, Personnel, and Equipment Efficiency

THE best assurance that a community will weather an emergency, disaster, or a catastrophe, is the quality and training of the men who must meet it, and the kind and amount of their equipment. Conflagrations, explosions, floods are any-time hazards. The safety forces of every town and city must be prepared to do their best should the emergency arise. The preparation has never been too good, because fortunately great emergencies are infrequent and scattered. The best organization in the country may never be called upon to prove itself.

During the last three years, however, every hamlet and metropolis in the country has been confronted by a continuous menace—air raids. For the first time, vast civilian defenses have been set up, greatly in excess of peacetime needs or possibilities. Time, manpower, and expense ceased to have normal meaning. Sheltered places, with no war industry, built up relatively powerful organizations against possible destruction. Cities accustomed to 15- to 30-year-old fire apparatus, bought all the new equipment WPB would let them acquire. Each of a hundred cities asserts: "We have a defense set-up you won't find anywhere else in the country." In fact, there may have developed a psychology of pride and confidence which may turn out to be as fruitless, when the air-raid menace has passed, as was the old donothingness.

Improvements Will Be Needed

The wartime accent must be on pumping, rescue, wrecking, emergency equipment. If the waterworks, or water distribution system, is blown up, of what use are extra plant-pumping capacity, large mains, excellent condition of pipe, gate valves, and hydrants? Consequently, except for the comparatively few pieces of new fire apparatus installed in 1940 and 1941, and the 500-gallon pumps furnished the cities by the Federal Government in 1942-43, civilian defense will be found to be chiefly an organization consisting of a nucleus of existing personnel, bolstered by auxiliary civilians, using newly inventoried and controlled existing equipment, plus the federal emergency equipment furnished to war-industry cities.

For 36 years the best gage of a city's ability to take care of itself in the unhappy event of severe fire, wind or flood, has been its grading by the standards of the National Board of Fire Underwriters. This grading is a measure of the adequacy of a town's water supply, fire department, fire alarm, police cooperation, building laws, fire prevention, structural conditions, and climatic peculiarities. The war has vastly increased the prestige of the fire and police departments. Water supply, which under the made-work plans of depression received much benefit, has, under war conditions, been hard hit by excessive industrial demands and diversion of essential materials to war production. Practically no progress has been made in improvement of building laws and structural conditions. In fact, new housing developments, factories, and nearly all other construction have been below the standards deemed necessary under normal conditions. Municipal fire alarm is inadequate nearly everywhere.

Ultimately the war will be over. Where and how will these municipal departments then stand? The Water Department may or may not be in a favorable position, depending largely upon whether the city's growth is of mushroom type, or is of a solid character. There is a backlog of capital water-system improvements, ranging from new reservoirs, dams, treatment and filtration plants, towers and pumps to thousands of miles of mains and service connections. The Fire Department is likely to be regarded as fat and opulent following its civilian-defense feast; but here again things are not as they seem. None of the apparatus and hose loaned for civilian defense is the property of the city, and when it is called in there may well be a serious deficiency in capacity, and even an inability to bring the manual force up to normal, if industrial activity keeps up.

With the end of the war the city can obtain all the chromium glitter and brasswork it wants; but the City Council, or the Commission, could look askance at the optimistic budget and say "Wait till the next war!" Yet numerous frequency-modulated police-radio systems will be needed, and probably most fire-alarm systems should be extended, rehabilitated or replaced.

Sell Council a Sound Fire Plan

Now is the time of times for each Fire Department to study itself—not as a civilian-defense link, but as the town's fire-prevention and fire-fighting force for the next 25 years.

List every factor that makes up the Fire Department. Cross out all those which are adequate. Put down under each of the remaining factors those items which will make that factor adequate. State why each item is needed in the final plan for a fire department strong enough to protect the town against peacetime emergencies.

Finally, work out on paper as briefly, clearly and accurately as you can, your Fire Department plan. Regard it not as aggrandisement of your department and your job, but as a public service. If you do this sincerely, some one in the municipal administration will sponsor it, promote it, arouse public backing. Your plan is definite, so that it can be taken hold of, and constructively criticised to make it even better.

The major arguments favoring the adoption of your plan are:

1. The gains made during the war should not be permitted to disappear.
2. The war made impossible certain basic improvements which are included in this plan.
3. Improvements in equipment, methods, and procedure, developed in war industries, are now available to the fire department.
4. Adopting and putting this plan into effect will keep the department up to par year after year.
5. Having a sound plan will aid discipline and attract better men to the department.
6. This plan will tend to lift your city into the next higher grade, as measured by the National Board Grading Schedule.

Operating the Water Department During Wartime

Priorities, Plant Protection, Materials Conservation, and Civilian Defense Add to the Duties of America's Most Vital Municipal Service

By L. A. Smith
Superintendent of Water Works
Madison, Wis.

THE impact of war on water utilities varies greatly, depending upon the location of the city which they serve and whether the community has war industries or military camps in the vicinity. Because of the increased likelihood of enemy bombing, water utilities on both the east and west coasts have materially different problems from those in the middle west. Activities in Madison have been such that the demand for water has increased a full 10 per cent, and are vital enough so that this water must keep flowing. There are four phases of the wartime problem which I propose to discuss briefly in this article. These are:

Regulations of the War Production Board.

Mutual Aid Inventory System.

Precautions taken by the Internal Security Branch of the U. S. Army.

Civilian Defense.

WPB Regulations. All water utilities are affected by the regulations of the War Production Board, which require substantial reductions in inventories and limit the purchase of materials to minimum essential requirements. Maintenance must be on a higher plane because existing equipment must continue in service, as it is practically impossible to get any new pumping equipment, except under severe emergency conditions. The manufacturers of water works supplies are compelled to use many substitutes to save critical materials.

Typical examples are the new Victory water meters and the use of Tube-Loy for services instead of copper. The new U-1 regulation now provides an AA-1 priority to insure flow of essential materials to water utilities.

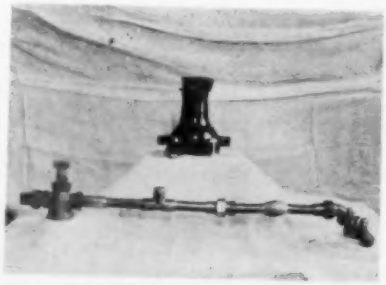
Mutual Aid Inventory System. The state of Wisconsin has set up a Mutual Aid Inventory System in which all water utilities file with the State Sanitary Engineer a complete inventory of all available supplies. This is being done under two classifications: those supplies permitted under WPB regulations and surplus materials. The regulations of WPB require that a substantial proportion of additional supplies required by water utilities be obtained, if possible, through the Mutual Aid System, and the State Sanitary Engineer acts as a clearing agency through which information may be obtained as to where supplies are available.

Precautions by Internal Security Branch of U. S. Army. Certain utilities have been designated by the Internal Security Branch of the U. S. Army as having a direct bearing on the war, and special precautions are being taken against sabotage and in preparing for possible emergencies caused by bombing. Many of these precautions become of less value if any publicity is given. In practically all cases, however, utilities in this classification are giving consideration to the matter of floodlighting, armed guards, fences and precautions of that nature. It is also extremely desirable that the quality of the water be checked much more often.

Civilian Defense. This will be discussed briefly from two aspects: statewide and local. The State Sanitary Engineer in Wisconsin has been designated as Assistant State Chief of Emergency Utilities, in charge of water and sewerage. In this state, the work of the Sanitary Engineer in this capacity is administered through nine districts, or zones, and a zone coordinator and deputy zone coordinator have been selected in each district to correlate the civilian defense activities as far as they apply to water and sewerage. Each zone coordinator has selected, in each of the counties in his zone, county coordinators who contact the plants in their counties, with the result that orders and instructions can be promptly issued with a minimum of work on the part of the coordinators.

On the state level, also, a committee on water works protection has been set up, consisting of approximately a dozen men located at various points throughout the state to handle the state-wide aspects. Three sub-committees have been set up as follows:

Equipment and Supplies of Chlorine.
Priorities and WPB Regulations.
Personnel and Training.



War Material—*cast iron meter casings are replacing the more familiar bronze. Tubeloy service pipe shows its adaptability to fittings remaining in stock in prewar inventory*

Water Works Civilian Defense

Our local water works defense organization is, we feel, as complete as it is possible to expect under civilian supervision. Although the possibility of Madison's being bombed seems remote, nevertheless engineers and water works officials must always plan for the unusual. These defense measures are nothing more than a dramatic example of sound engineering practice.

The emergency work is handled from two central points. In case of an incident, the superintendent will go to one center and take charge of operations, while the assistant superintendent goes to the other and is responsible for the entire distribution system and the dispatching of men and crews. Duplicate crews are organized under six classifications, which we feel should cover every anticipated possibility.

Emergency Crews

The first is the Fire Emergency Crew. This consists of two men who report at the site of a fire; it is their duty to determine whether water is needed to fight the fire and to help locate valves and hydrants. They cooperate with

the fire department and report directly to the chief.

The second is the Shut-Off Crew. This again consists of two men whose duty is to turn off water in the mains in case of damage by bombing or other cause. Prompt action on their part will be required.

The third is the Station Crew. These men are responsible for the continued operation of such portions of the supply systems as wells or similar key points.

The fourth is the Emergency and Repair Crew. When repairs must be made immediately in order to help combat the raid and bring fires under control, these men will go to work at once on the damaged main. If the work is not so vitally essential, they will put the line into such condition that repairs can be made easily later on. There will be at least four men in these crews.

The fifth is the Customer Service Crew. The duty here is to help property owners, where services are damaged, to maintain sanitary conditions in the home.

The last unit is the Transportation Crew. This is a sort of liaison group that will transport men, equipment and supplies wherever needed. No crew can go out with all the equipment that it needs to meet every emergency; however, each will go with a certain amount. As developments at each anticipated incident disclose the need for added men or supplies the Transportation Crew will swing into action. They operate like a small-scale mutual aid program.

Because of the possibility that telephone service may be disrupted during an incident, the Control Center of the water works has been equipped with a short wave sending and receiving set by which the water department can keep in contact with both the police and fire departments. It is so arranged that two-way conversations can be held between the water works pumping station and the cruising squad cars. This will facilitate prompt reports of damage to the distribution system, either from war activities or other causes.

Peacetime Operation

The war has imposed many burdens on all phases of municipal management. Everyone is anxious to cooperate and sacrifice in order to help end the war, since right now that is out most important objective. However, we will all look forward to the day when we can again give thought to general advancement rather than destruction and work towards improvement of service instead of protection against destruction.

EMERGENCY REPAIR CREW—*carries barricades, red lanterns, warning flags and flares, small tools valve keys, valve locating device and distribution system record book. The air compressor lighting unit, and pump can all be trailed behind the trucks.*

CUSTOMER SERVICE CREW—*crew carries hose, with fittings which can be connected to house faucets and hydrant valves, red lanterns, barricades, valve and service box keys and distribution system record book.*

EMERGENCY SHUT-OFF CREW—*crew carries valve keys, service box keys, small tools, red lanterns, warning flags, barricades, valve locating device and distribution system record book.*

FIRE EMERGENCY CREW — *carries wrenches, pressure gages, valve locating device, distribution system record book and small tools.*

Housing Administrator Urges Post-War Preparation Now

IN THE words in the accompanying "box" we find the keynote of an address delivered by John B. Blandford, Jr., Administrator of the National Housing Agency, at the annual conventions of the National Association of Housing Officials and the American Society of Planning Officials in New York City on May 19. He made clear his deep conviction that we shall have failed to realize our opportunities if the first decade after victory does not produce achievements in housing far surpassing our best performance in the past, both in quantity and quality.

Why We Must Plan Now

Giving his reasons for urging that post-war plans be made now, Administrator Blandford said:

"In housing, as in all other major segments of our economy, we must raise our sights high if we are to make a better post-war world a reality. Personally I am not a believer in automatic economic miracles. I do not believe that we will inevitably have a post-war program of the size and quality needed simply because the overwhelming majority of our people want to live in good houses, or simply because the materials, manpower, and money are potentially available to produce and finance those houses. Instead, we must develop the ways and means to fuse those elements in the most effective manner possible. . . .

"We must carefully reexamine the housing formulae and techniques developed prior to the war. We must strengthen those which have been successful or which promise to be successful. We must devise new methods to fill the gaps in our present approach to housing, and we must project all our efforts on a much larger scale and in much closer contact with other phases of American community life and ideals, in order to produce a truly effective post-war program."

Where "Private" and "Public" Housing Meet

The experience gained under war housing will prove very valuable, the Housing Administrator pointed out. For example, the mutual contact and experience of a wide variety of groups working on the great problems of war housing has done much, in his opinion, to eliminate many of the pre-war prejudices in the field of housing. Calling attention to the lack of understanding caused by the broad terms, "private housing" and "public housing," he said:

"In the first place, all housing is built by private builders or private contractors. While the funds for most "public" projects are provided either directly by the Federal Government or indirectly through pledge of federal contributions, a large proportion of the long-term financing of many such projects has been raised through bonds sold by private banking institutions to private investors and backed by annual federal contributions. In the field of "private" housing, the mortgage investors in some 40 per cent of our recent peacetime housing and in at least 85 per cent of our war housing have also been protected against loss by pledge of the Government's credit through FHA insurance. The proportions of our potential post-war jobs are so huge and so complex that these distinctions are likely to have less and less real meaning if we do that job successfully. Suppose we develop an effective post-war technique for redevelopment of blighted urban areas through the combined participation of private lending institutions, private builders and contractors, local housing authorities, and the municipal, state, and federal governments. What are we to call the resulting product—private housing or public housing? In my judgment, if the product is decent housing for those who did not have it before, if it checks urban blight, if it creates human and humane values, if it protects sound neighborhoods and legitimate property values, and if it provides useful outlets for investment funds, building materials, and building labor, then we should call it *good housing* and let it go at that."

> ***"The job of providing adequate shelter for essential incoming war workers is as vital to the achievement of production schedules as the provision of plants and equipment. It has been and continues to be a difficult, complex, and engrossing job. But, however great its demands may be upon our time and our energies, we cannot afford to lose sight of our larger objectives for the period after victory, when housing can again assume its rightful position as an instrument of peaceful society rather than an instrument of war."***

Role of Local Governments

Mr. Blandford asserted that, while the sum total of local housing activity is of vital national importance, the basic decisions concerning peacetime housing rest with the communities in which the housing is built and with the residents of those communities.

"To prepare for post-war housing, our local communities should begin at once to plan flexible future programs based on the housing needs of all families and of all income groups—and those programs should in many cases include adjacent areas, instead of stopping at city lines. If local organizations competent to perform this programming job do not exist, they should be established on a basis involving the participation and cooperation of all groups who have a stake in good housing. The total housing requirements, including rehabilitation and slum clearance, should be outlined and balanced with all long-term needs of the community. Local building codes, zoning ordinances, sanitation requirements, and taxation policies should be studied to determine what modifications are necessary to provide needed protection for the sound growth or redevelopment of the community and at the same time afford maximum freedom of action for post-war housing activity. The area for local, state, or federal assistance should be studied and the need for local or state legislation should be determined and acted upon."

Role of the Federal Government

The functions of the Federal Government in post-war housing were viewed as being basically supplementary to this local activity:

"Federal activities should center primarily on research, investigations, and financial aid to keep the housing field at the highest possible level of technical, social, and economic development. We should maintain constant study of economic trends so as to keep the housing industry in balance with national policies for the post-war world. We should have available advice and technical assistance to offer to communities in the preparation and execution of local housing programs. And we should develop and administer adequate instruments for financial assistance to local programs. Perhaps federal participation and cooperation may be needed in developing procedures for acquisition of land in blighted or obsolescent city areas in preparation for a sound program of post-war redevelopment. In the same manner, the Federal Government can assist in providing information to aid many communities in overcoming taxation stalemates which are imperiling their finances, hastening their internal deterioration, and gradually wasting vast areas already supplied with utilities costing millions of dollars."

The Housing Administrator urged that we get on with our job:

"By a combination of local initiative and responsibility and federal cooperation, I believe we can move forward with confidence to the days ahead. We will need the full energies of the total housing team, and we will need to concentrate on the full objectives without distraction by profitless disputes. If we prepare adequately, and if we act wisely and decisively when the war is over, I believe we can inaugurate a housing program that will be worthy of the new era which will start when peace comes again."

Emphasizing Service

New Ulm, Minn., produces both heat and electric power profitably in its veteran municipal electric plant. A newly installed high-pressure boiler steps up its capacity.

THE installation of a new Stirling type 70,000 lb. capacity Union boiler at the municipal electric plant at New Ulm, Minn., represents a partial realization of a well-prepared plan of electric power improvement instituted in 1935. The completion of the program will require a new turbine-generator and condenser which already are under contract, but cannot be installed until after the war.

Despite this war-induced setback, New Ulm's municipal power utility has been, and continues to be, one of the leading services of this type in the state. In the last 10 years nearly $750,000 worth of improvements have been incorporated into the plant, all paid for out of earnings, and the plant still shows a substantial balance, despite these expenditures. This has not been accomplished at any sacrifice in rate structure. Rates at New Ulm are low—a real factor in the success of the undertaking.

Not a New Plant

Electric power generation is not a new story in this Minnesota city. It was first established in New Ulm in 1901 by an overwhelming vote of over 10 to 1. The action was the result of studies on street-lighting by the council. The new service became increasingly popular, and during the ensuing years the city found it necessary to enlarge the facilities several times.

Anticipates Growth

Finally in 1933 officials decided to entirely restudy the electric system and build according to the anticipated growth that they could conservatively expect. The need for clear thought on the matter can be plainly seen in the figures on the sale of electrical energy. Since 1923, the use of this power has been increasing throughout the nation at the rate of approximately 11 per cent per year. New Ulm, during this same period, has been enjoying an increase of 13 per cent prior to the depression and 21 per cent since then.

It was the result of this strong and healthy growth that the city engaged R. D. Thomas and Associates, consulting engineers of Minneapolis, to make a thorough study of plant requirements. This company recommended an immediate installation of additional generating equipment, consisting of a turbo-generator, a condenser, a cooling tower, and a superheater for one of the existing boilers.

The council promptly adopted these recommendations and in 1935 installed a 1,536 kva Elliott turbine designed to be operated on high pressure, if future requirements made this advisable. The turbine was further equipped with a bleeder mechanism, extracting steam at five pounds pressure for the municipal heating system. The balance of the steam is condensed in a Foster-Wheeler condenser instead of being exhausted into the atmosphere.

High Pressure Boilers

Further developments in 1937 made it necessary to install a new B&W boiler, operating at the higher pressure of 410 pounds and 700° F. This new boiler was their first that utilized the economies of automatic-feed, being equipped with a Detroit spreader-type stoker. Boiler feed water treating was also instituted, along with auxiliary coal handling equipment. Following this, early in 1938, the city installed a second set of generating equipment consisting of a Westinghouse turbine capable of producing 3,570 kva and a Worthington condenser. They then expected to complete the plant facilities by installing another set of generating equipment equally powerful, but were able to progress with their plans only to the point of installing the boiler before the war interfered.

Low Rates

As mentioned previously, the electric rate is among the lowest in the entire state. It is interesting to learn that since 1933 these rates have been reduced four times, and, in spite of these reductions, the system has experienced net gains in revenue. This has been attributed to the fact that as the rates have lowered, customers have found new uses for the electricity that previously they felt that they could not afford. In every case, the anticipated reduction in revenue has been more than offset by the increased use.

The plant occupies a unique place in the municipality. It does more than

A new addition which was required to house the added equipment plant for New Ulm's highly efficient municipal electric plant. This plant not only serves the city with electric service at unusually low rates but furnishes heat to a number of municipal buildings as well.

generate electricity for the city and its industries; it furnishes heat as well. Visitors are impressed by the cleanliness of the downtown business district and the lack of smoke and soot—all made possible by this civic utility and resulting in improved values that cannot be measured strictly in dollars and cents.

Municipal Heating

The municipal heating system has had an interesting career. Started in 1915 as a semi-private enterprise by the Commercial Club, it took the form of a corporation known as the New Ulm Heating Co. The original heating system, costing approximately $26,400, started operating with only 28 customers using the ample supply of exhaust steam. Eight years later, in May 1923, the New Ulm Heating Company turned the entire central heating system over to the city as a gift, together with a depreciation fund of $13,360 and a meter fund of over $4,000. The city subsequently made further extensions and now serves the Municipal Building, the public library and historical museum, the high school, one grade school, several large industrial plants, hotels, many business buildings, and a number of private residences.

Commission Managed

Since 1940 this municipal utility has been managed under a new charter by a three-man Public Utilities Commission. This is a rotating body appointed by the mayor and his council. The terms of the Commission do not expire simultaneously. This insures that the character of the group will not change unexpectedly, and also assures them of experienced men to assist new members in their management studies. The efficiency of their management may be measured by the financial stability of the utility. During the past ten years the income has risen steadily from $32,000 to $110,000 annually.

Personnel

The Commission consists of Wm. Stelljes, president, George D. Erickson, and Carl Eichten. John W. Ulrich is the superintendent of the plant. He is the sixth man to hold this position in the 42 years of the plant's existence, and has held the position since 1933.

"The city of New Ulm is proud of its plant," states President Stelljes. "Although the accomplishments we have achieved so far are, in our opinion, good, they are no more than any other well-managed city could do.

The Lessons of the Pennsylvania Floods

Water Works Mutual Aid Gets a Workout Under Disaster Conditions

MUTUAL aid as a long-time water works practice, instead of merely a wartime expedient, vividly demonstrated its worth last year during the five disastrous flash-floods that occurred in Pennsylvania. The floods paid their vicious and damaging calls at intervals from May to August and left as mementos a record-breaking toll in loss of life and property.

"If anyone still believes that a water works can be so well prepared that it can take care of all its problems in an emergency without aid from others let him come down and talk to officials at Honesdale," states Bernard S. Bush, District Engineer, Pennsylvania State Department of Health. "The water company in this town was, in our opinion, one of the best equipped smaller utilities to combat a disaster, bombing or otherwise. But when the flood hit, it destroyed practically every piece of this equipment."

The floods struck first on May 22nd and 23rd last year in the northeast corner of Pennsylvania where Honesdale is located. Previously, rains had water-soaked the ground and this rainfall, varying from four to seven inches, created an unprecentedly high runoff.

In the Honesdale area, the flood hit with a fury surpassing an attack by a fleet of General Sherman tanks. Working like a field marshal strategically trying to cripple the city, it destroyed six out of the seven bridges in the Lackawaxen River, thereby effectively separating one side of town from the other. Two of these bridges carried large water distribution mains—and their loss meant not only the destruction of traffic arteries but vital water supplies as well. In one adjoining small town an entire mile of supply line from the reservoir to the distribution system was destroyed, and less than 1,000 feet were recovered. In another town the flood broke into a 300,000 gallon spring-fed reservoir, partially filling it with earth and rocks. Evidence of the difficulty was observed in highly turbid water appearing at the house taps.

Recording venturi meters dramatically told the story of the water system breakdown in this area. As the flood washed away each crossing, the chart accurately indicated the drop in pressure until the entire system was emptied. Within three days, repair crews had established temporary service; however, three months passed before they were able to restore normal service for everyone.

Emergency Disaster Committee

The first organization that went into action was the Governor's Emergency Disaster Committee. Through it, trained personnel and a generous store of sanitation and medical supplies were dispatched immediately to the affected areas. A mobile field laboratory doing bacteriological work, as well as several health department engineers, remained on flood duty continuously during the entire period.

The floods were an actual test of defense preparedness since they simulated many of the actual bombing conditions. Essential utilities were crippled, transportation was seriously impaired, and factories and homes were destroyed. An enemy raider could have done no better.

Although John H. Murdock, State Water Coordinator in Pennsylvania, had worked hard to perfect an organization designed to meet conditions like this, he had not received all the cooperation he would have liked from the various water utilities. This laxity demonstrated itself during the emergency. Failure to submit workmanlike inventories, for example, cost valuable time in dispatching needed equipment.

Nevertheless, despite its shortcomings, its benefits were equally real and tangible. An organized plan was in existence which meant a great deal. Men knew what to do and where to go. Valuable time was saved as engineers and officials fought to avert a collapse in public health.

Notable during this emergency was the fine work performed by the various manufacturers. Special equipment was dispatched immediately by Wal-

lace and Tiernan, who also supplied representatives that remained in the field to operate the sterilizing equipment.

Sterilizing Mains

Water works officials and health department engineers developed a definite procedure in returning the damaged mains to service. First they sterilized the contaminated sections and the new pipe as they were repaired or replaced; next they dosed the water at the source heavily enough to insure a residual of at least 0.2 ppm throughout the distribution system. This required the supplying of new chlorinating facilities in several water works.

"It was interesting to note the amount of chlorine that was required to obtain this residual," Mr. Bush states. "In most instances, a dosage of 12 to 15 pounds of chlorine per million gallons was sufficient, but those systems which had never before used chlorine encountered a different experience. In one instance, the dosage had to be increased to 36 pounds before any trace whatsoever of residual could be obtained. And at this rate, we had to flush the system and bleed the dead ends for three days before residuals were obtained throughout the system. Operators continued dosings at this rate for the entire week. In another town, treatment was started at the rate of 18 pounds per million gallons and was increased twice daily until it reached a high of 76 pounds. Only under this mass attack of chlorine were we able to obtain a slight residual as water entered the distribution system. To obtain residuals throughout the town, we found it necessary to install a hypochlorite feeder as a booster at the entrance of the distribution system."

What Was Learned

There are many lessons that city and health department officials have learned as result of this series of floods. First, and probably the most important, is the value of cooperation in fighting disasters such as this effectively. Next, is the importance of an organized scheme or plan of defense. And finally, the first hand practice they received in restoring their damaged communities to normalcy under the constant threat of public health breakdown. It is a tribute to the city officials, to Pennsylvania's Department of Public Health, and to the various water departments and utilities that, although the floods themselves caused widespread damage and death, there were no reported cases of illnesses caused by water pollution.

Above: How a paved street at Spring Brook, Pa., looked after carrying flood waters instead of cars and trucks.

Above: One of the six bridges at Honesdale. Below: A woolen mill at Seelyville feels the impact of the flood water.

Detroit Uses New Lining For Sewage Plant Stack

A Stack Serving a Sludge Cake Incinerator Gets a Monolithic Refractory Lining in Place of the Usual Firebrick

NOT long ago W. M. Wallace, superintendent of filtration and sewage treatment at Detroit, began noticing trouble with one of the chimneys at his sewage treatment plant incinerator. The lining in one of them, identified by his records as stack No. 3, began to show the effects of wear during the past few years and required replacing. The original lining of the stack consisted of perforated radial chimney brick.

To replace this old lining, Mr. Wallace decided to use a combination of castable refractory Pilbrico along with the usual firebrick. He believed that it would result in a type of construction that would be more substantial and permanent.

The difference between this and the standard brick is that it provides a monolithic surface. The material, shipped in dry form, needs only to be mixed with water and poured behind forms like concrete. It is relatively easy to construct, requiring only common or semi-skilled labor in its construction.

The lining was designed in three sections. The first, consisting of the lower 10½ feet, utilized the firebrick lining. Engineers with the Public Works Department decided that the original brick could remain if faced with a veneer of new firebrick 9 inches thick. In the second section, 7 feet high, the designers called for castable Plibrico 6 inches thick. The lining is backed with insulating material to protect the outer steel stack. The final section consists of the upper 43½ feet and is lined with monolithic refractory 4½ inches thick. The insulating material between the steel stack and the lining reaches a minimum thickness of ½ inch at the top. Three expansion joints divide this lining into four lengths.

The stack is one of four that serve the circular, multiple hearth Nichols Herreshoff sludge incinerators. Each of these incinerators has a capacity of 300 tons per day and burns to a clear ash the grit, sedimentation tank scum, and sludge filter cake produced in the treatment of the sewage. They handle approximately 170,000 tons annually.

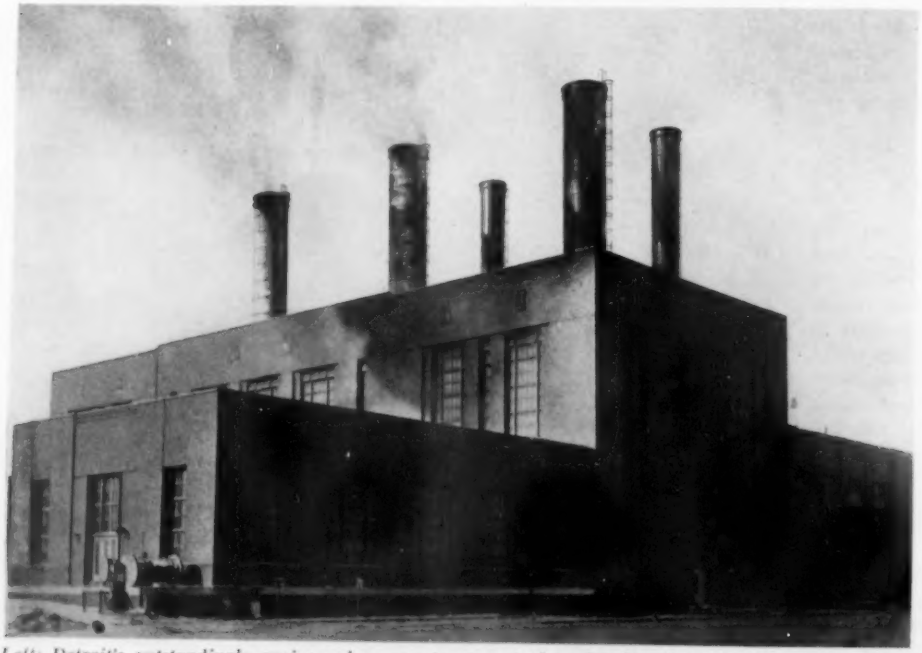
Detroit's sewage treatment plant, built in 1939, is one of the largest in the United States and is an outstanding example of resourceful engineering. Designed to serve a population of 2,400,000, its total pumping station capacity is 1,300 mgd.

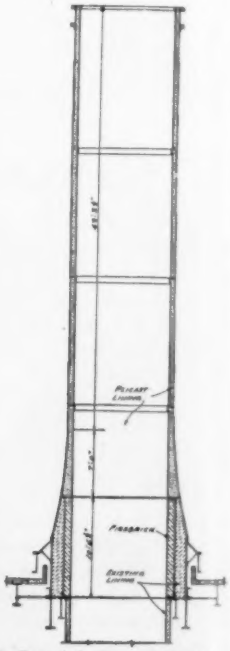
The disregard for precedent in the design of this giant plant is amply demonstrated by the location of the racks and screens behind rather than ahead of the pumps in the pumping station. Jeffrey mechanically-cleaned bar rack and grit chamber flight collectors separate these larger solids and convey them to the incinerator directly.

From here the sewage flows to a formidable array of sedimentation basins. Each chamber is capable of accomodating a flow from 300,000 people. In the eight tanks there are a total of 13 miles of conveyor chains. As a further unusual feature, only 12 per cent of the sludge is digested.

The sludge is preheated before entering the 300,000 cubic foot digestion tank and a temperature ranging between 80° to 90°F is maintained by tank-heating coils consisting of over a mile of 4-inch pipe. The PFT floating cover for this tank is 105 feet in diameter. Gas that is generated drives a 350-hp Worthington sludge gas engine powering a 240 kw, 4,600 volt electric generator.

The sludge is elutriated in two tanks that will operate either in parallel or in series before proceeding to the filter. Operators carefully separate both the digested and raw sludge as it enters a battery of eight vacuum filters in order to get as much accurate data as possible on the filter rates and costs of the chemicals.





Left: Detroit's outstandingly engineered sewage treatment plant handles the entire flow from this large industrial city. A battery of incinerators disposes of the sludge, scum, and grit collected during the treating process. Right: Details of the Pilcast stack lining. A layer of insulation separates the stack from the refractory.

Engineering Surveys and Site Selection for Post-War Public Works

"All These Things Must Be Out of the Way Before the First Power Shovel Bites the Dust"

By Major General Philip B. Fleming
Administrator, Federal Works Agency

As to one aspect of the post-war future there is almost no room for controversy. I refer to what is generally called public works. Public works do not conflict with anyone's deep-seated philosophy about life. They do not involve economic or political ideologies at all.

Methodists and Presbyterians may prefer to travel separate roads to the life everlasting, but both are perfectly willing to use the same highway when they want to drive over to the next town. Republicans and Democrats may differ as to what they are going to do when they get to the other side of the river, but they are very cheerfully willing to use the same bridge. The Captain of Industry and the Captain of Labor may disagree about a good many things, but they do not object in the least to bathing in water obtained from a common source of supply. Measures undertaken to maintain or improve community health benefit merchant, lawyer, rich man and poor man alike.

The engineering principles by which public works are provided are eternal and invariable. Whether a bridge is to be used by Jews or Gentiles, Republicans or Democrats, the techniques used in constructing it are the same. The method of figuring the stresses and strains is a matter of mathematics, not of political conviction. Two plus two equals four for the bricklayer as well as for the magnate.

Nor is there much room for argument as to the need for public works. We have never had enough of them to adequately serve the business and convenience of the public. Whatever the future may bring, we can be sure that we are going to keep right on needing good highways for business and pleasure, schools for our children, hospitals for the sick, uncontaminated sources of water, and sanitary sewage disposal systems.

Aids to Private Business

Public works can stand on their own merits. We do not have to hold a debate to decide whether it is wise for Government to provide jobs for everybody, or jobs for nobody. We would still need public works if the providing of them didn't create a single job. Public works do not compete with private business. A new and better municipal water works does not injure business; it is an aid to business, and it is as much of an aid to small business as to big business. A flood-control project is just as likely to save the life and property of a rich man as it is to save the life and chattels of a poor man.

The only possibility that the building of public works might come into conflict with private enterprise would be in a situation of great labor and material shortages with government and private business competing for the limited supplies. We are not likely to have that kind of a situation immediately after the war.

Apparently it is the expectation of some businessmen that immediately after the war we shall very gracefully skid into a gigantic boom without parallel in American history. They point to normal wants long deferred and to billions of dollars of mass purchasing power in the form of War Bonds. This, they predict, will start a sudden rush to the stores for the purchase of electric refrigerators, washing machines, automobiles, aluminum cooking untensils, and hundreds of other types of durable goods that cannot be bought now.

But to what extent will these goods be available on armistice day? Goods that cannot be produced *during* the war will not be immediately available at the *end* of the war. Before they will be available again plants now making war goods will have to convert back to the production of peace goods. Reconversion takes time, and it employs relatively little labor.

It has been reported that when Henry Ford switched over from the Model T to the Model A Ford, 18 months were required for retooling. If it takes a year and a half to retool from the production of one type of automobile to another type of car, how soon should we expect a factory making bombing planes to adapt itself to the production of wholly dissimilar washing machines, for example?

It is certainly within the realm of possibility that by the time wholesale reconversion has been completed and the factories are ready to turn out new types of goods, the majority of today's war workers will have spent their War Bond money merely to pay the rent and keep alive. Moreover, the manufacturer who fears this may happen may be in no great hurry to reconvert. He may prefer to wait and see which way the economic wind is blowing.

To make good the promise of full employment and freedom from want many provisions undoubtedly will be necessary. Some of them are suggested in the recommendations of the National Resources Planning Board

No prophetic gift is needed to say dogmatically that the returning soldiers and the great masses of the people in this country, and in all countries, will not tolerate post-war unemployment and all the miseries it would entail and the ingratitude it would signify, and the deaf and dumb and blind stupidity it would mean. This is the rock bottom truth from which to start thinking about the post-war world—and not how much more agreeable it would be if Washington, with its irritating bureaucrats and its silly questionnaires and its taxes, would fold up and disappear.

The masses of the people simply will not stand for unemployment and doles after this war. The system of free enterprise cannot continue to exist in the world today if its leaders do not join with Government in positive measures, carried out as energetically and efficiently as the war production, to assure satisfactory work at once and continually, and to insure freedom from want to all our people.

Walter Lippmann

which the President recently referred to Congress.

But in any plans that may be made, public works construction must of necessity play an important part, for these reasons: Construction employs more people, directly and indirectly, than any other activity in which government can engage; it does not compete with private business; public works are needed on their own account.

The Cities' Part in the Program

It seems obvious to me, therefore, that government—all kinds of government, federal, state and local—will have to put public works construction somewhere near the heart of their post-war planning. I think we will have to decide upon a nation-wide plan so that we can have a national reservoir of public works that can be turned on when and where the employment need is great, and turned off where and when the need is not so great. For example, if private business in St. Paul is able to provide all the jobs needed in St. Paul at a given time, it would be folly for the municipality to choose that exact time for inaugurating a vast program of public works that would bring it into competition with private business for men and materials. It would be the better part of wisdom to undertake in such a contingency only such public construction as is imperatively needed, and to postpone until a later date, when business may not be able to provide all the jobs needed, such construction as may safely be deferred. Unless our plans are national in scope there will be no administrative way by which we can cut the cloth to fit the need.

How should such a nation-wide program be financed? I do not know. Perhaps Congress may decide to make direct appropriations for certain projects to be carried out in cooperation with states and cities. What cities themselves can do is indicated by what already is being done by several municipalities in Wisconsin. A few years ago many American municipalities were in financial straits and their borrowing power had been largely exhausted. More recently the situation of many cities has improved materially. In the present circumstances such cities can do one of several things. They can, of course, cut their tax rates. On the other hand, they can maintain present tax rates and build up reserves for capital expenditures later on. Or, they can pay off their debts and so pave the way for needed future bond financing. The City of Marshfield, Wisconsin, has invested $50,000 in War Bonds toward the future purchase of a new 4,000 kilowatt generator for the municipal light plant. Neenah has bought $199,000 worth of War Bonds to be used later for a new High School addition, a new bridge and a garbage incinerator. Burlington has begun negotiations for the retirement of its entire city debt, which ordinarily would be extended to 1949. Thus its credit is maintained and its borrowing capacity assured for further capital improvements.

Good Intentions Alone Make no Jobs

But if we are to have a public works program that will make jobs at a time when jobs may be sorely needed, we need something more than money. Nor do good intentions alone make many jobs. Jobs become available only after sound plans have been made. If any one of you should decide today to build a new home you couldn't start work on it tomorrow morning. A number of important preliminaries would first have to be attended to. You would have to find and acquire a site for it. You would have to get the title cleared and the deed recorded at the court house. Then you would have to employ an architect to draw up some plans and blueprints. In due course you would enlist the services of a contractor to submit cost estimates and to assume responsibility for the job. All of these matters would have to be attended to before a single laborer or craftsman could be put to work. The skilled carpenters who are present would be able, no doubt, to shortcut this process somewhat. They could probably draw up their own working plans. The rest of us would have to employ somebody to do that work for us.

The preliminary steps may be even more numerous in public works construction. Sometimes land must be acquired through the time-consuming process of condemnation in the courts. Sometimes bond issue referenda must be held. Architects and engineers must produce the working drawings. Bids must be solicited by advertising. All these things must be out of the way before the first power shovel bites the dust.

No matter how much money may be available for public works at the end of the war, there will be no jobs on them for many months, unless the preliminary engineering steps have been taken before the end of the war. That's why, in speaking about the place of public works in the post-war readjustment, I prefer to talk about advance engineering surveys instead of post-war planning. For in making advance engineering surveys and in acquiring needed sites there is nothing theoretical or ideological: it is a simple matter of "getting set" in time to be of service.

There are some, of course, who tell us that this is not the time to bother about the future; that the only thing we should think about now is the winning of the war, after which the future will take care of itself. That was the mistake we made the last time. Unfortunately, the war and the peace that is to follow it are not separable. And unless we concern ourselves now with the sort of world we want to live in hereafter, our wartime sacrifices may prove to have been in vain.

—From an address before representatives of labor, business, and government, St. Paul, Minn., April 5, 1943. (See also front cover.)

Neighborhood Landing Fields—A 1929 Vision and Post-War Probability

SOME fourteen years ago a far-sighted town planner made the following recommendations to at least two of his client cities—Kalamazoo, Mich., and Aurora, Ill.:

"It seems certain that there will soon be developed a type of small air machine which can land and take off with safety in a space of one or two city blocks. In anticipation of this event, sites for several small landing fields are indicated. Six of these sites are ranged in a great circle around the built up area so as to place one within easy range of each general neighborhood. Two are placed close in, both along the river; and in both cases a water basin is suggested, in expectation that the small planes built to rise and land almost vertically will be equipped for landing and taking off on water as well as on a land field. This suggestion for small landing fields to serve individual privately-owned or perhaps commercially-owned fleets of small vertical-landing planes, is in reality modest rather than an over-statement of the possibilities. All of our cities are now in the throes of enlarging their street systems because of the increase in the use of automobiles. We should not be caught in the same way with the development of aviation."

The author of this forward-looking advice—especially interesting in connection with current discussions such as that on page 5 of the May issue—is Jacob Crane, now Director of Urban Studies of the National Housing Agency, Washington, D. C.

A Small City's 14-Year Record of Progress

By

Elward Wright

Mayor
Houma, Louisiana

1. *City Hall, Houma, La.*
2. *One of Houma's fine streets*
3. *Sanitary incinerator*
4. *Water and power plant*

During the last ten years the city government of Houma has expended approximately $2,000,000 for improvements. These expenditures were for installing a sanitary sewer system; paving streets and sidewalks; acquiring a city hall, a fire station, fire-fighting equipment, an automatic fire-alarm system, an incenerator, and parks; expanding the municipally owned light and water plant; constructing two modern bridges; and installing a municipally owned natural gas distribution system. Despite this expenditure of $2,000,000, or $200 per capita, for public improvements, the city tax rate has been reduced 33⅓ per cent. All homes up to an assessed value of $2,000 are exempt from all municipal taxes, and the city of Houma has on hand a cash surplus of approximately $100,000. These improvements and the reduction in the tax rate, with the granting of homestead exemptions, have been due to the successful operation of municipally owned public utilities.

THE city of Houma, La., believes that its future will be greater than its past or present. This faith has sound footing, for it is based upon an enviable record of achievement. In a 14-year report* and appraisal of local government activity, Houma's past has been examined so that we may know its future.

In the early thirties, Houma, a town of 6,035 persons dwelling within an area of one and one-half miles, changed its classification to that of a city and

* The report was made possible by the cooperation of the entire family of municipal officials of Houma and students in the Department of Government of the Bureau of Government Research of the Louisiana State University.

launched forth on a long-range program of municipal improvement.

Modern Police and Fire Departments

At that time Houma had a police force of three regular officers. Now the force consists of six regular and three part-time officers. Automatic traffic signals have been installed to relieve members of the department for more important work, and regular officers patrol constantly in a squad car or on a motorcycle.

The Fire Department, which was housed in an old market building prior to 1930, now has an adequate fire station and has developed into one of the most modern fire departments to be found in a city of its size. Its first-class rating has made possible great savings in the insurance rates its citizens pay. There are five regular paid firemen and a 250-member volunteer company serving without pay. Three modern trucks and an electric fire-alarm system serve the city. There is a fire box within 1,000 feet of each residence and a water hydrant within 500 feet. Fire prevention has been aided by the complete zoning of the city for business, industrial, and residential purposes and the adoption of a construction ordinance for the business district. Houma, covering an area of 11½ miles and with property assessed at over $3,000,000, has had an average annual fire loss *over* the past five years of only $1,880.

In 1928 there was no sewerage system; now the city boasts a modern disposal plant with seven pumping stations. A municipally owned gas system provides natural gas which comes from wells in Loag Lake 10 miles from the city.

Utility Improvements

Enormous strides have been made in improving utilities during the last 14 years. Additions and improvements to the water plant have increased the capacity from 87 million gallons a year to 240 million; the increase in power-plant capacity is from 400 to 2,125 kva. Houma now has one of the lowest rates in the state of Louisiana for domestic and commercial electricity use.

Prior to 1934, when the city installed a modern incinerator, garbage was disposed of by dumping it on an open plot. Now a new brick incinerator disposes of garbage and refuse at the rate of 24 tons in 24 hours, and the garbage dump has been cleared and converted into a playground.

Altogether Houma has five parks in various sections of the city with two full-time employed supervisors, in 1930 there was only one park and no supervised recreation.

Street-paving projects were first begun in 1936. Thirty per cent of the present street area is paved with concrete, including all main streets; the remainder of the streets are of shell composition. A new street sweeper aids in the work of maintaining healthful conditions and of beautifying the city. The sidewalks of the city are 80 per cent paved.

Airport a Blimp Base

Houma Airport has a Class 3 rating. Foresight on the part of city and parish officials in improving the airport has resulted in the establishment of a blimp base. Attention has been directed to the solution of many problems which have arisen because of the establishment of this Naval base and the influx of workers. Housing needs are among the most pressing, although all municipal services will experience heavier loads.

A study of housing has been initiated by the Chamber of Commerce which appointed a committee to work with the city, parish, Navy, and private concerns to solve many of the wartime problems.

We feel that Houma has reason to be proud and that the city is ready to function efficiently during the war and in the post-war years.

Vacation Debacle

Everybody agrees the war worker needs a rest, but all the government agencies divide on how he should spend it.

UNDER this heading, in its issue for May 8, 1943, *Business Week* says:

In contrast to policies of 1941 and 1942, when Washington put a damper on vacations, advocating instead that employees stay at work and receive a bonus in lieu of time off, the War Production Board this year is encouraging war workers to take vacations.

Agencies Conflict—But where they'll go, how they should go, what they'll do when they get there, how much they'll spend, and whether indeed they should go at all are subjects upon which no two of the Washington war agencies can agree.

The War Manpower Commission wants the war worker to spend his vacation restfully so that fatigue may be dissipated and future absenteeism minimized. The Food Distribution Administration wants the vacation spent on the farm in agricultural labor. Selective Service wants it spent close to a registrant's draft board.

Garden or Raid Shelter?—The Office of Defense Health and Welfare wants the war worker's vacation spent in home gardening. The Office of Civilian Defense wants it used for brushing up on air raid precautions. The Office of Price Administration will allow no additional gasoline rations and hopes other forms of transportation will be used. The Office of Defense Transportation wants no vacation travel on railroads or buses.

OPA wants vacationing confined to such outlets as recreation and amusements. The Treasury wants vacation checks salted away in war bonds. And the Office of War Information is issuing material telling the traditionally care-free vacationist what his government expects of him in wartime.

Benefit War Program—How to reconcile all those ideas is not likely, however, to trouble the war worker. No matter how or where he spends his vacation, the feeling is general that the war program will benefit in increased individual productivity and over-all output.

WPB Chairman Donald M. Nelson has asked that vacation schedules be planned to avoid work interruptions. He wants the release of employees for summer holidays to be provided for by working ahead in some departments, by staggering vacation periods, by bringing in substitutes, and, where necessary, by working overtime. As he sees it, vacations will be a fine thing for morale.

Maps by R. H. Bowen

Through an inadvertance a line was omitted from the illustrations of the original city and later development of "Molleboon," accompanying the article on "Town Planning Ideas of an Old Dutch City" on pages 44-45 of the May issue of THE AMERICAN CITY, in which it was intended to give credit to R. H. Bowen for his skillful preparation of the two maps.

A view of the attractive Olean water filtration plant taken from the mixing chamber and settling basin end. Breakpoint chlorination has enabled this plant to reclaim its cloudy reputation earned during a period of difficult taste and odor problems.

Reforming the Olean Water Supply

The Dramatic Story of the Way Breakpoint Chlorination Rehabilitated this Water Works Struggling for a Quarter of a Century with Difficult Taste and Odor Problems

By Nelson M. Fuller
Sanitary Engineer and Superintendent, Olean, N. Y.

TWENTY-FIVE years ago the city of Olean, New York, put into operation a water purification plant of the rapid sand filter type. The wells previously used furnished an insufficient flow and also were subject to pollution from the Allegany River. While the new supply was safe, adequate, and softer by some 50 per cent, it had certain characteristics which prevented complete consumer acceptance. The water was warm during the summer months and, of more importance, it developed chlorinous tastes and odors causing serious complaints. As time went on these objections were sufficiently general to cause the complainants to organize into a political force, which detrimentally influenced the operations of the water department and eventually, in 1928, caused a first-class typhoid fever epidemic. It resulted in damage suits of over a half million dollars, and 14 years of high quality political excitement that ended only when the taste and odor problem was solved. Business losses ran into the hundreds of thousands of dollars.

The reason for this catastrophic epidemic was simple. It was caused by the unauthorized use of the old well system during the summer of 1928, in order to avoid the offensive taste and odor in the river water, and resulted in 225 cases of typhoid fever and 22 deaths. Fortunately, the polluted well water pumped into the system supplied only a portion of the city. If it had not been for the filtration plant, there would probably have been at least 3,000 cases of the disease—in a city of only 22,000 population.

Trained Man Takes Over

Following the epidemic, the city employed a technically trained operator and authorized the enlargement of the filtration plant and other improvements long overdue. The new superintendent realized the importance of solving the tastes and odors problem, and improved the potability of the water by the introduction of activated carbon and ammonia in the treatment of the water. However he was only partly successful, and, in spite of the most careful treatment regulation, tastes and odors resulting from the chlorine treatment developed in the distribution system some five or six hours after the water entered the mains. These very slight evidences of chlorinous tastes and odors would not have been regarded as important in most cities, but the people were hyper-sensitive about this matter—especially since a political group realized the possibility of political power such a common denominator of complaint afforded them.

As a result, the city instituted a well-water exploration program in 1933.

One hundred and twenty thousand dollars were expended, resulting in the development of some 12 or 13 test wells, the majority in unsatisfactory water bearing formations. When officials asked for an additional $190,000, they received a thumping refusal by the voters. From that time in 1937 until 1941, no further attempts to improve the situation with respect to tastes and odors removal were undertaken. The political situation was almost too critical to admit that a problem of this kind even existed; nevertheless, the tastes and odors problem continued to be an element in the impairment of public relations and the acceptance of the water supply.

In 1941 an opportunity to make a careful study was made possible by the mayor and council, and the conclusion reached was that the chloro-phenolic tastes and odors were caused by the plant treatment itself. It was decided to try oxidation of the small amount of organic matter in the raw water by the excess chlorine method, developed at Toronto in 1928 and later modified in 1939 to "break-point" chlorination. Where it can be used, it is a very simple treatment and generally consists in applying about twice as much chlorine to the raw water as is required to establish ordinary disinfection of the water. Although the applied dosage is only twice the so-called normal dosage, it has about twenty times the oxidizing power. This is possible because excess chlorine in such concentration (2 ppm) in water solution releases oxygen from the water in its powerful nascent form. Before entering the mains the water is relieved of excess chlorine by the use of a reducing agent—in our case a small amount of sulphur dioxide, which is cheap and easy to apply.

Public Appreciation

Before the treatment was put into effect, a number of trial runs were made of the plan in full operation for periods of 24 hours, discharging the treated water back into the Olean Creek. When the plant finally went "on the line," the public immediately recognized the improvement in the tastes and odors situation. Favorable comments found their way into the offices of the water department from all corners of the city, especially from the sections having the largest number of dead ends. One woman even wanted to give the superintendent $10 to express her appreciation of the improvement. After two years of operation of this treatment, we now feel that the tastes and odors problem in Olean has ceased to be a problem. The old gallon jug parade to numerous shallow wells of unknown sanitary quality has ceased, and the sale of spring water in the city has almost disappeared.

Since the new treatment was instituted, chemical costs have been reduced on the average of $3 per million gallons of water treated.

Additional Improvements

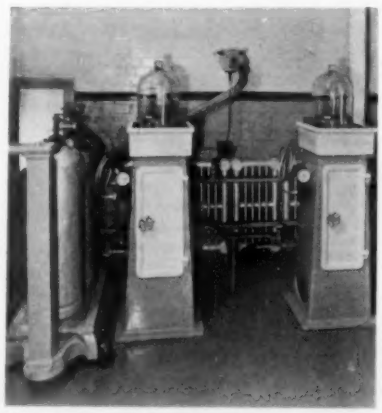
In addition to the improvement mentioned above, there are other worthwhile changes in the character of the water. When drawn into a glass, the water has a very pronounced sparkle. But of greatest significance has been the improvement in plant operation. First, the settling basins, filters, and filter sand are no longer a mass of biological slime. No algae growths occur in the basins. Mud balls and hard spots in the filters have disappeared. The sand is clear and sharp and has all the appearance of new sand. When the settling basins are cleaned, the settled material is no longer fermenting and foul. The filter runs have been increased from 40 to 70 hours, and even then the loss of head seldom exceeds six feet. The oxidation treatment also removes and settles out the small quantities of iron and manganese which are present in the raw water. Also, it effectively removes the iron salts that are contained in the poor grade of alum that we are forced to use during this war period.

Health Protection

For the first six weeks of the treatment, the carbon and slimes in the filters dechlorinated 2 ppm of chlorine without the use of any sulphur dioxide.

From the health protection standpoint, we obtained much better control than we ever had under the system of marginal chlorination. Except for a particular spore forming organism whose spores exist in the water, all our tests of the water at different points in the process of purification and in the distribution system are generally negative in the presumptive or primary bacterial tests for water pollution. Secondary or confirmation tests are now only necessary for tests made on the raw waters. We have had a chance to compare the bacterial control under superchlorination with the usual or marginal type of chlorination. We are convinced that, under the marginal treatment, the operator is always handicapped by the fear of over dosage, and gives himself a dangerously narrow factor of safety. With 20 times the chlorine residual necessary to disinfect water subject to three hours' contact in the plant, we have an enchanced feeling of safety, as well as an increased knowledge of the effectiveness of chlorine treatment.

As a war measure, the high chlorine residuals in the plant are also assurance against the possible use of bacterial sabotage in the form of amoebic dysentery which requires 1 ppm of free chlorine to kill.



Simple changes in the orifice openings of these 15-year-old chlorinators enabled officials to fit them into the breakpoint process.

Action of Sunshine

At first we had a lot of trouble from the effect of the actinic rays of the sun which caused our residual chlorine of 2 ppm to almost disappear completely in our open settling basins. These rays actually caused the chlorine present in the water to release an equivalent amount of nascent oxygen. This brings up a possible means not only of dechlorinating the water with ultra violet rays before it enters the system, but of increasing still further the effectiveness of the treatment. Laboratory tests on water containing very high residuals show that this reaction in the presence of ultra violet light goes to completion rapidly. Chlorine and ultra violet light are both powerful disinfectants, and the action of ultra violet light on chlorine in solution is to reduce the free chlorine to zero, while at the same time it creates nascent oxygen, another powerful disinfectant. Thus a triple disinfecting effect is possible, while simultaneously destroying all phenolic and other organic compounds—which in the past have caused so many taste and odor complaints from water purified by the rapid sand process with marginal chlorination.

The city of Olean's experience with its water supply over the past 25 years—its political ramifications, its typhoid fever epidemic, and direct and indirect financial losses of over a million dollars—should emphasize the importance of taste and odor control to all who are responsible for managing water works.

Quotable Thoughts for your Talks and Reports

Installment No. 7 of a Department of Ideas, Old and New, for Public Speakers and Report Writers.

Thomas Jefferson as a City Planner

It may not be generally known that included amongst the many other professions of Thomas Jefferson was that of City Planner. He was an advisor to the builder of the Capital, Major L'Enfant, and this was the advice which he gave him:

"I should propose . . . that no street be narrower than 100 feet, with footways of 15 feet. Where a street is long and level, it might be 120 feet wide. I should prefer squares of at least 200 yards every way, which will be about 8 acres each . . . I doubt much whether the obligation to build the houses at a given distance from the street contributes to its beauty. It produces a disgusting monotony; all persons make this complaint against Philadelphia . . . In Paris it is forbidden to build a house beyond a given height; and it is admitted to be a good restriction. It keeps down the price of ground, keeps the houses low and convenient, and the streets light and airy. Fires are much more manageable where houses are low."

—Edward Weinfeld

Why is it so characteristic of our democratic society that we can be lavish with public funds in trying to cure dependency, delinquency, sickness, and crime, but absolutely nearsighted and niggardly in the field of *prevention?*—Burton P. Fowler

Public Administration of Incalculable Importance

The demands of a world in flames show us more clearly than ever that the solution of many of our problems depends in large measure upon skill in administrative management. . . .

Even without any emergency, it is more and more clearly recognized that public administration is of incalculable importance as an instrument for dealing with social and political matters. . . .

There is no necessary conflict between high ideals of democracy and high administrative capacity. On the contrary, they are rooted in the same fertile soil of reason and experience. Public administration, if wisely conceived and executed, will ultimately increase not only the driving force of the whole community, but also expand the range of free choices for the personality. Good administration proceeds upon a very simple principle—that of providing an easier way of doing what otherwise is more difficult to do, or cannot be done at all.

—The Spelman Fund of New York

Ignorance of the law excuses no man; not that all men know the law, but because 'tis an excuse every man will plead, and no man can tell how to refute him.—John Selden

Man's Immortal Dream

We, men of earth, have here the stuff
Of Paradise. We have enough.
We need no other thing to build
The stairs into the unfulfilled,
No other ivory for the doors,
No other marble for the floors,
No other cedar for the beam
And dome of man's immortal dream!

Here on the paths of every day,
Here, on the common human way,
Is all the busy gods would take
To build a heaven; to mould and make
New Edens. Ours the stuff sublime
To build eternity in our time.

—Edwin Markham

If life is to keep for us its dignity and value, we must find something to live and die for in peace as in war.—William Temple, Archbishop of Canterbury.

John Wesley's Rule

Do all the good you can,
By all the means you can,
In all the ways you can,
In all the places you can,
At all the times you can,
To all the people you can,
As long as ever you can.

—John Wesley

The proper function of a government is to make it easy for people to do good and difficult for them to do evil.—William E. Gladstone.

Freedom to Speak

And I honor the man who is willing to sink
Half his present repute for the freedom to think,
And, when he has thought, be his cause strong or weak,
Will risk t' other half for the freedom to speak.

—James Russell Lowell

He who endeavors to control the mind by force is a tyrant, and he who submits is a slave.—Robert G. Ingersoll

A Post-War Goal

Were half the power, that fills the world with terror,
Were half the wealth, bestowed on camps and courts,
Given to redeem the human mind from error,
There were no need of arsenals or forts.

—Henry Wadsworth Longfellow

The Real Nature of Democracy

Democracy is not a circle with the individual at the center. That would mean anarchy. It is not a circle with the state at the center. That would mean tyranny. It is an ellipse with two foci—the individual and the state. It is a government where the individual has all the liberty he can use without interfering with the common good, and the state has all the authority it can maintain without crushing the individual. And these principles, so expressed politically, may be applied to all institutions and to all aspects of life. . . .

The goal of democracy is an enlightened freedom where individuals of good will give uncoerced allegiance to the institutions which insure the general welfare and the common good. In a world whose life is always relative as it attempts to secure absolute values, the goal always lies beyond, yet even so it commands men's loyalties and attracts their allegiance. Because the goal always summons us from a height which we have never completely reached, it keeps alive aspirations, it sustains hope, it commands courage. . . .

Countries like our own whose life is based upon the freedom of the individual, render a service to the world whose value is beyond calculation every time their individual citizens rise to a great occasion and use their freedom with intelligence and character and with loyalty to the highest values.

—Lynn Harold Hough
(in *Living Democracy*)

The battle for democracy will not be won with grand words, but it certainly will not be won without them.—Crane Brinton

Democracy and Interdependence

What ideals has the United States to offer? Democracy is a glorious vision of a changing order in the affairs of men. Democracy unfolds as the ages unroll. Each age awaits the appearance of a revised edition. *In 1776 democracy heralded Independence and Political Union. Today it aspires to Interdependence and Economic Union. . . .*

If soldiers are not to cross international boundaries, goods must do so. Unless shackles can be dropped from trade, bombs will be dropped from the sky.

—From *The Annals* of the American Academy of Political and Social Science

For Common Action Now

To wait until hostilities have ceased, till the binding force of the common danger is no longer present, is to miss the chance of common agreement. During the time of war, when the feeling of cooperation is still strong, is the moment to concert common action for the period after the war.

—Sir Stafford Cripps

Bombproofing Is Only a Sideline

The "How" and "Why" of the First Municipal Use of Underwater Electric Motor Driven Pumps

By RAYMOND V. DARBY
Mayor
Inglewood, Calif.

IF we are to believe our newspaper commentators—all of whom frankly admit their outstanding shrewdness and great wisdom—Hitler began preparing for war back in 1933. Do you want to know how far-sighted we were? Inglewood began making its water supply bombproof in 1930. We beat Hitler by a full three years.

I presume that the proper thing for us to do is to state how we analyzed world conditions, how we bought a high-class fortune-teller's crystal, shined it up with some of Fibber McGee's furniture polish, peered into it and anticipated what the little paperhanger with his chopped-off mustache and tousled hair was going to do. But of course that isn't the way it worked at all. We selected underground pumps for our water supply on the basis of a sound, thorough engineering analysis, sprinkled with the kind of courage it takes to try something new. This business of making them bombproof never entered our minds at the time. In order to get a better idea of our situation, here is some of the background.

Surrounded by Los Angeles

Inglewood, labeled the "Harbor of the Air" because of its being the center of Southern California's great aviation industry, is a thriving city of about 40,000 population entirely surrounded by Los Angeles. This puts us somewhat in the same situation as the man at the North Pole who couldn't go any direction but south. Unless we leave by airplane we eventually go to Los Angeles no matter what direction we travel. Of course, this is a little confining at first, but we have become accustomed to seeing this sprawling metropolis reach out and envelope another large chunk of Southern California real estate and think little about it.

Back when Rommel was still considered the Desert Fox, and the Afrika Korps was fighting instead of goose-stepping to a prison camp, we every day expected to see the Los Angeles Chamber of Commerce offer to take Tunis and Bizerte by incorporation. They have methods and tactics efficient enough for General Eisenhower to study.

The men who planned, constructed, and are managing Inglewood's efficient Water Department. Left to right, Raymond V. Darby, Mayor; D. H. Griffith, Superintendent; Walter E. Kennedy, City Engineer; Wm. N. Beadle, Vice-President of The Byron Jackson Co.

However, we cannot complain too much. One of the prime reasons for the growth of Inglewood has been the cheap transportation to and from the metropolitan city. The second reason has been our fine municipal water system.

In 1920, when Inglewood acquired the present municipal water supply and distribution system, we had a population of a scant 6,000, and the services numbered only a few more than 1,000. Today, 23 years later, we have 11,000 services furnishing water to a population in excess of 40,000.

Financial Growth

Some idea of the department's growth can be appreciated by contrasting the revenues for the last 12-month period, approximately $225,000, with the first year's revenue under city ownership, back in 1920, which was something around $20,000.

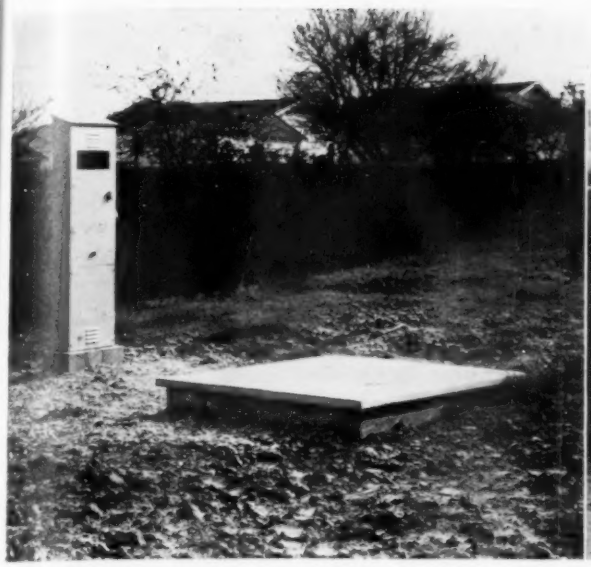
Our water supply comes from wells drilled in a 60-acre tract of land developed as a city park. The wells tap a water-bearing strata known as the historic "Aguae' de Centinela," or Centinela Springs. The water is unexcelled in Southern California. The springs stopped flowing in 1900, and the water now stands at 140 feet below the surface—or approximately at sea level. It was important that whatever development we used would not impair the beauty or usefulness of the park. Consequently, the submersible pump was excellently fitted to our requirements.

First Municipal Use

Inglewood was a pioneer in the use of this type of pump, having first purchased one in 1930 from the Submersible Pump Co., before this firm was merged with the Byron Jackson Co., of Los Angeles. Since Inglewood first ventured into this departure in water pump design, the submersible has evolved from the experimental stage and now is known wherever pumps are used—not limited to national but to international renown. The pumps do not require a pump house, superstructure, or such appurtenances. Experience has proved the merits of the equipment and have justified its installation. We have purchased 12 with the 13th coming up.

Officials at Inglewood, Calif., equip their water supply with submersible electric motor driven pumps located underground, with motors submerged below the surface of the water. They base their selection on the economy of the pumps, ease of operation, and flexibility of location, making the pumps suitable for use in restricted areas such as parks and residential districts.

Without realizing it at the time, they provided a source of water supply practically "air-raid proof."



This is a close-up of how the submersible pump looks at the surface. A small concrete sump provides room for the service elbow, which is connected to the horizontal discharge pipe. The weatherproof control panel connects by means of a marine cable to the submersible electric motor, which is in the well and always beneath the water surface.

Well No. 16 is located in the easterly section of Inglewood and has a large reservoir on the site. Superintendent D. H. Griffith on the left may be seen talking with the late Arthur H. Cory, formerly City Engineer. J. B. Van Horn, inventor of the submersible pumps stands in the background. At his left is W. N. Beadle of the Byron Jackson Co.

How Acquired

There is a bit of interesting history back of our acquiring the first of these pumps. We had been solemnly assured by other pump manufacturers that a submersible-type pump would never work—that you simply could not expect an electric motor to operate when placed under water. They had us pretty well convinced because there were so many of them. J. B. Van Horn, the inventor of this type of pump, had to make a one-man stand against the field.

But when we opened the bids, we found every one of the standard pump companies' proposals identical, and that made us pretty mad. As a result, we threw out their bids and became pioneers in underwater electric pump installations. We have never regretted our decision.

Flexible Location

This underground feature allows us to put the pump almost anywhere that our engineers feel is geologically advisable, whether in a business, residential, or park area. A number of wells have been driven in locations other than the park, since it appeared that an added drain on this area would produce an excessive lowering of the water table. Consequently, we have located some in residential areas close to attractive homes. The entire installation requires only a small amount of right-of-way and low investment in real estate. In several cases, only the rear portion of a small lot was acquired; and in no case have we had any complaints from nearby homeowners.

At present the department has 16 producing wells, of which 15 are in operation and one is yet to be tested. This latter well was only recently drilled. Since the system was taken over by the city, a total of 22 wells has been put down.

Advantages

As you can see, bombproofing was the very least of our concerns in the selection of this type of pump. We like them because they are attractive, they require only a small amount of space, and they do not need expensive pump houses. But if you are interested in its air raid resistant characteristics, I'll turn you over to our City Engineer Walter E. Kennedy. According to the most authoritative information he can gather, the pump is ideal for war conditions, because both the pump and electric motor are so deep in the ground that the bombs we are familiar with would not faze them.

In conclusion, we might be excused for indulging in a little civic pride by adding that the progress and healthy condition of our water utility is but one example of the many factors that make Inglewood, despite its proximity to the great metropolis of Los Angeles, widely known as a modern and progressive community.

Superintendent D. H. Griffith stands beside well No. 20 of the municipal waterworks system located in the city park.

Did You Know That - - -

THE average length of service for water superintendents in 100 of America's largest cities is 8 years? One city of 350,000 inhabitants has a record of 17 superintendents since the year 1894 when the plant was purchased. This information comes from L. S. Kaiser, Superintendent of the Bureau of Water Works, Portland, Oregon.

Mr. Kaiser has been able to beat this average by 21 years. In the spring of 1914 the City Council appointed him superintendent and he has served continuously since then.

There have been only two other superintendents who preceded him in this work. The first was Col. Isaac W. Smith who took over the reins in 1887, when the city purchased the water system, and served until his death in 1896. He was followed by Capt. Frank T. Dodge who also served until his death in 1914. The water system, purchased for about $465,000, is now valued at over $28,000,000.

The First Months of Cleveland's New City Planning Commission

By John T. Howard
Planning Director

Cleveland's City Planning Commission was reorganized in November 1942, under a Charter Amendment adopted by the people, which gives it a strong and permanent place in the city government. With wholehearted support from the Administration, the City Council, and the public, the first few months of its operation have seen the start of an extensive planning program. The staff of five has already been increased to thirteen, and the budget has gone up from a prior average of less than $20,000 to the 1943 allowance of $50,000.

The new Commission is engaged in planning for both the war and the post-war periods, in addition to the routine burden of zoning appeals, staff work, and reports on mandatory referrals. Rapid developments in this war-industry center have given rise to many immediate problems, especially housing. The Commission is assisting the NHA Conversion Program, processing all applications for compliance with zoning. It has studied and reported on the problems in connection with a large new aircraft plant, making recommendations on transportation, recreation and school facilities, on utilities, and on the amount and location of additional private and public housing and trailers. It is now making studies to aid private builders locate utility-serviced lots appropriate for war housing. Several extensive zoning map and text amendments are in preparation, to facilitate conversions and large-scale housing developments of a good standard. In addition, services are rendered to various Civilian Defense activities.

The Commission feels that reconciling these emergency developments with long-term sound growth and values is its most immediate wartime task.

Post-War Public Works Program

For the post-war emergency, a public works program is being formulated as part of the Commission's statutory duty to prepare annually a one-year Capital Budget and five-year Program. The objective is a coordinated program keyed to a comprehensive community development plan, rather than just a grab-bag of individually meritorious projects. The express highway phase of the program is being studied in collaboration with the State Highway Department and county officials. Suburbs and other local governmental agencies are being asked to cooperate in developing the entire program on a regional basis.

For a longer-range employment base than emergency public works could provide, the Commission is undertaking studies leading toward large-scale urban redevelopment by cooperative private and public enterprise, along the lines suggested by the FHA, the NRPB and the Urban Land Institute. Appropriate areas are to be delineated, character of development recommended, pilot studies and possible site layout for private construction are to be devised, and needed public improvements planned.

Programs of neighborhood conservation for the vast obsolescent sections of Cleveland not suited to redevelopment are being started as an essential complement.

The aim of all these post-war plans is the same as in other cities: to provide post-war employment, and to see to it that long-range plans for improving the city as a place to live and work are brought nearer to realization by those same employment measures.

Success in achieving these objectives will depend partly on the time remaining before the need and opportunity for actual construction programs, and partly on the availability of funds for detailed planning of public works. The comprehensive "frame-of-reference" planning is further along than the brief history of the Commission would suggest, due to the extensive basic studies of land use, population, and other factors made during the past six years by the Regional Association and the Real Property Inventory of Metropolitan Cleveland.

Though in some respects Cleveland's planning is still behind a few other cities, the new Commission believes it has made an effective beginning on a sound program.

A Taxpayer's Reverie

I seldom ever sit and *think;* I'm lazy I'll admit.
And why should I exert my mind, when happy just to *sit?*

But t'other day I had a thought while sitting in the shade,
Which caused me to acknowledge some mistakes that I have made.

I've always hated taxes and have cussed them black and blue;
I've felt that I was being robbed when raised a buck or two.

I've been against the city and the county and the school,
And now I'm ready to confess I've also been a fool.

Hereafter when I pay the tax on my small plot of earth,
I'll write a check and smile and say "I've had my money's worth."

Why? Just last week I drove down town and parked the family car;
I went inside a store to buy a cold drink and cigar.

Was hardly gone a minute when I went back to the place
I'd left the car, and found instead a lonely, vacant space.

I phoned the City Police Chief of my sad, sorry plight;
He called a score of nearby towns, and found my car that night.

I carried no insurance and my loss would be severe;
Right there I saved more money than my tax for many a year.

So then I started thinking and concluded in the end:
We get more for the tax we pay than any dough we spend.

Not often do policemen have to find a stolen bus,
But every day, far into night, they are at work for us.
They're sworn to die maintaining peace, protecting mine and yours—
The old ounce of prevention which is worth a pound of cures.

The fireboys dedicate their lives to service of the town;
By stopping and preventing fires they keep our fire rates down.
I'm told their inhalator has to date saved many lives.
It's waiting to protect us, and our children and our wives.

Virginia League and State Planning Board To Cooperate

THE League of Virginia Municipalities reports a cooperative working arrangement between the League and the Virginia State Planning Board has been put into operation. It was felt that the League and the State Planning Board were working toward objectives which have much in common. This is particularly true in the policy of each to encourage through leadership the development of local initiative in sound planning and in the execution of such plans for economic and social improvement. The cooperative agreement states that each of the agencies is in a position to make very definite contributions in this field. If they work together under a cooperative arrangement, it is felt that much overlapping of effort can be avoided; financial savings should be effected for the Board, economy in manpower and travel will be effected, and the joint arrangement will be more productive in results than each working separately.

With these objectives in view, the Planning Board and the League agreed to a cooperative working arrangement under which the State Planning Board through its Division of Local Planning will extend its activities in: (1) encouraging the appointment of competent local planning commissions, both municipal and county, and (2) rendering technical assistance to such local planning commissions in outlining possible programs of local planning and in developing these programs. The League through its field service will work closely with the Division of Local Planning in encouraging the organization of local planning commissions and in developing and executing programs of local planning. Since this will involve additional costs to the league, and in order to effect a working business, as well as cooperative relationship, the additional costs incurred by the League will be borne by the State Planning Board. The amount of work involved and the renumeration paid for it will be considerable.

Edward H. Ruehl, League Field Consultant, has been named "part-time Field Consultant for the State Planning Board," so that he can officially represent the Board in planning and zoning as he does field work for the League.

—From *State League Notes* for March 15, 1943.

Dog Control Ordinances

VARIOUS aspects of the problem of municipal regulation of dogs, including ordinance provisions, are discussed in a recent *Washington Municipal Bulletin*.* The type of ordinance which is best, the Bulletin states, depends entirely on the city and its people, since the amount of dog control the citizens want and need is, after all, the important thing. Clear cut definitions, simple, accurate legal style, and sufficient enforcement facilities to back up the ordinance are considered the essentials. The following points, which a dog ordinance should ordinarily include, are listed:

1. Definitions.
2. Section requiring licensing of dogs owned or kept in the city.
3. Section on licenses—amount, when due, who collects them.
4. Section on emergency powers—quarantine, vicious dogs.
5. Section of prohibiting female dogs in season running at large.
6. Black-out and seasonal provisions.
7. Provisions for pound and staff.
8. Provisions on impounding and redemption procedure.
9. Statement of penalties for violation of ordinance.
10. Amendments of conflicting ordinances.

City officials are particularly concerned, at the present time, about dog control problems resulting from blackouts and Victory gardens.

Under Seattle's ordinance, dogs must be confined, within doors or on leash, from sundown to 7 a.m., with violations punishable by fine up to $300, jail sentence up to 90 days, or both.

Dog ordinances in Washington cities and elsewhere fall, in general, into two main categories—dogs are licensed but may run at large, or dogs are licensed but must be kept on leash or in charge of an adult. Under ordinances of the first type, dogs may run at large during some seasons, but must be kept in their own yards or on leash during other seasons. This type of regulation, if enforced, makes it easier to keep dogs away from Victory gardens in summertime.

* "Dogs as a Municipal Problem." Published by the Association of Washington Cities through cooperation with the Bureau of Governmental Research of the University of Washington, Seattle, Wash., April 20, 1943.

By George Sealy Cone, City Manager, Kerrville, Texas

One thought brought on another, and before I hardly knew,
I went down to the City Hall and learned a thing or two.
A mighty handsome building 'tis, for any city fit:
It's finer since I realize I own a part of it.

I took in all departments and examined stem to stern;
I questioned everyone I saw because I wished to learn.
My attitude had so much changed, employees showed surprise
That I could smile and be polite, instead of criticise.

I found the City's employees now number forty-three
And each and every one of them is doing work for me.
The Mayor and four Councilmen are working for me too,
And they don't draw a single cent for all the work they do.

They pay their taxes, water, gas, the same as you and I.
Instead of cussing them again, I'll praise them to the sky.
There's something to the busy man who'll give away his time,
Receiving naught but criticism, not e'en a single dime.

I saw the clerks make out the bills for water and gas too;
I never really realized they had so much to do.
The meters must be read each month—two thousand and still more,
The bills mailed out, collections made, and all accounted for.

They issue all the licenses for whisky, wine and beer;
And permits for all building work are also issued here.
They have the taxes to assess, rolls, bills, receipts, prepare;
And then collections must be made, which is no small affair.

I'd never fully realized the things my town must do,
How well it spends the money which is paid by me and you;
It runs the golf course and the pool, and skillfully maintains
Street, park and garbage services; water, gas and sewer mains.

It's strange how seeking out the facts will change one's attitude;
The bitterness once in my heart has turned to gratitude.
And to the chronic griper this advice I'd like to give:
To know the truth will make you boost the town in which you live.

Chaska's New Water Reservoir

A 325,000-Gallon Prestressed Concrete Reservoir Completes the Modernization of the Water Supply System in This Minnesota Town

WHEN Chaska, Minn., completed its new 325,000 reservoir last year, it received benefits in operation and protection that will rival those in many big cities.

Officials inexpensively gave their town the benefits of overhead storage by locating the reservoir on a nearby hill. They also improved the quality of the water furnished, since the added reserves that this new structure gave them made it possible for the first time to utilize continuously their iron removal plant, without the necessity of occasionally bypassing it during peak demands. Finally, they established their community firmly in the economical and highly desirable class 7 rating of the Fire Underwriters Inspection Bureau.

Original Reservoir

Chaska built its first water system in 1915, using a small concrete reservoir holding 100,000 gallons. Characteristic of even well-designed tanks built during this period, it developed a discouraging number of cracks and leaks. Efforts to waterproof it by building a brick veneer on the inside were equally disappointing and succeeded only in reducing the capacity of the tank by about 20 per cent. This, together with the increased demand for water by the new industries coming to town, forced officials to consider abandoning the reservoir. Although Chaska has a population of about 2,000 people, the demand for water gradually increased until it reached peaks of 300,000 gallons daily.

Several years ago the town added a Crane iron removal plant to its water supply facilities. The iron content in the water was, like most well supplies in this district, exceptionally high; and the thrifty housewives at Chaska did not hesitate to let the Town Board know in plain and forceful language what they thought when Monday morning's washings were spoiled by rusty, foul-smelling water. Although this iron removal plant took care of the situation nicely most of the time, there were periods when the demand was so great that the reserve supply in the reservoir was exhausted, and the operators were forced to pump raw water directly into the main of the distribution system.

The new reservoir has met this difficulty. Now a treated supply large enough to easily meet these big demands, is at all times available. This has also stabilized pressures throughout the distribution system and greatly facilitated pumping operations.

Design Studies

Of course, there is more to the construction of the reservoir than just building the tank on a hill. Durar and Milinowski, St. Paul consulting engineers, can show how carefully this design was analyzed before recommending the 325,000 gallon capacity. They estimated the costs on six separate tanks, varying from 250,000 to 340,000 gallons capacity, using the most economical dimensions for each. The results of their investigations show the following estimated costs:

Capacity	Estimated Cost
250,000 gals.	$9,500
250,000 "	10,250
310,000 "	10,800
310,000 "	11,600
325,000 "	10,600
340,000 "	11,200

These figures show clearly the economies in the 325,000 gallon size. The costs, incidentally, cover only the tank itself and do not include land, engineering, construction, inspection, and other miscellaneous details. These costs are fixed and would remain the same regardless of the size of the tank that was selected. The reservoir is 54 feet in diameter and 19 feet in depth, with 9 feet of this in the ground.

Prestressed Design

The engineers designed the tank with prestressed reinforcing, developed according to The William S. Hewett System, Chicago, Ill., in order to insure watertightness. Since concrete shrinks a little when it "sets," it introduces a small amount of stress in the reinforcing steel under ordinary design conditions. As a result, the concrete must "give" a little before the steel goes to work. While this might not be so undesirable in many places, such as retaining walls or certain types of flat slab construction, it has definite disadvantages in a water reservoir. Since concrete does not do a good job taking tensile stress, small cracks may occur that will be aggravated by the water, particularly when freezing and thawing takes place.

With the Hewett design, a plain concrete circular wall is first constructed, then surrounded by steel bands and tightened with turnbuckles. The wall and these bands are then coated with a second layer of concrete, generally by the shotcrete method. The stress produced by the steel is strong enough to neutralize the pressure of the water in the reservoir and thereby minimize the possibility of cracks and leaks.

The dome of the tank is made from 3½ inches of reinforced concrete and has a ventilator in the top. The cement used was 85 per cent Portland and 15 per cent Carney's natural cement.

Optiz and Boehl of St. Cloud were the contractors. Carl A. Kayeska, water works operator.

Chaska's new 325,000-gallon prestressed water reservoir.

Wright Field's CO_2 Crash Truck

OFFICIAL PHOTOGRAPHS AND CAPTIONS, U. S. ARMY AIR FORCES

The flames retreat, driven back by the chemical onslaught of the truck as it drives up with all nozzles shooting.

THE big idea of a crash truck is to be successful in extinguishing airplane, truck, automobile, in short, gasoline fires in vehicles. The efficacy of waterspray was pointed out by Captain A. E. Hancock of Maxwell Field, Ala., in "Fighting Crash Fires" in the February issue of THE AMERICAN CITY. In addition to being an effective cooling agent, water has the undeniable advantage of being universally available. In recent years, the carbon-dioxide crash truck has appeared in the airport picture. Just as Maxwell Field worked out a successful technique with water, Wright Field at Dayton, Ohio, has pioneered in the design and application of carbon-dioxide equipment for snuffing crash fires. What has evolved is claimed to be not only a successful device for blotting airport, bridge, and arid-highway traffic crashes, but possibly the embryo of a new type of general fire apparatus.

Wright Field's Co2 Fire Truck

The fire extinguishing equipment evolved at Wright Field is mounted on a prime mover chassis, all-wheel drive. This truck carries three tons of liquid carbon dioxide in one container at less than a third the usual storage pressure of this substance. When released from the nozzle, it flashes to carbon dioxide snow and vapor. The snow is 575 times heavier per unit volume than the vapor, which makes it possible to throw it at and onto the fire which it tends to hug even in a wind. Smothering streams of carbon dioxide come from a 15-foot boom nozzle which extends ahead of the truck, from a swing nozzle in front of the radiator, and from a linear ground sweep nozzle in front of the tires. The driver manipulates these nozzles, while others of the crew approach from the sides with 1½ inch mop-up hose lines. The reaches are 50 feet for the boom nozzle and 20 feet for the other outlets.

The truck gets into action as it rushes up to the fire. The boom nozzle is tilted forward and discharges while 50 feet away from the fire, and with closer approach the swing nozzle and the fixed outlets cool the fire and protect the truck so that it can move up against the fire. The control panel in the cab provides levers and knobs for swinging the boom, pointing the nozzle, and operating the discharge valves. The entire mechanism is designed for speedy results.

With a half load of chemicals already sprayed on the plane, spectators safely approach the wreck. Note ice on the boom nozzle. Temperature that day was 70°.

Carbon-Dioxide-and-Water

The nozzles make use of the principle that some water discharged with the gas increases the effectiveness of the method. Water, discharged as small streams into the periphery of the carbon dioxide discharge, is atomized and carried into the fire as part of the gaseous discharge. On the hot surfaces this water vapor is cooled below freezing. In a matter of seconds, glow-

ing surfaces become covered with icy slush.

Two 55-gallon drums of aviation gasoline were dumped over a junked trainer plane containing quantities of combustible materials, and 10 gallons more poured into the cockpit. The gasoline was lighted and allowed to burn for 30 seconds. As a 10-mile wind was blowing, the truck approached from the windward side, and the nozzles discharged for a total of 48 seconds. It was all over.

A second test used a two-motored Bell Airacuda. The entire plane was saturated with 220 gallons of gasoline. After 55 seconds burning, the truck rushed in and discharged for 4-5/12 minutes. The fire was controlled and rescues could easily have been made. Possibly the chief significance of the tests was knowledge of the value and technique of combining small quantities of water with the gas discharge. The gas pressure throws the water, and the water makes the mixture heavier so that it can be thrown farther.

Reducing Fire Hazard

THE problem of the fire resistance of wood structures is receiving close attention, with widespread interest in the new chemicals developed to reduce the surface flammability of wood construction so that the wood will not contribute to the continuation of a fire already started. The degree of protection afforded by these preparations varies from a little to an appreciable amount. The effective and economical treatment of wood to reduce its flammability naturally increases the fire safety of wood structures and makes it possible to use wood with greater assurance. For effectively treated wood can be burned only by continuous application of heat; when the ignition source is removed, the active burning stops. Treated wood, like an intelligent man, will not support a flame or contribute to self-destruction.

The value of a treated or coated wood lies in its resistance to flame spread, flame penetration, glowing, the smaller contribution of fuel to combustion, and reduction in smoke. These resistances are important in controlling fires affecting rafters, joists, beams, ceiling and wall assemblies, doors, partitions, light structures such as park shelters and tool houses, bridges, docks and airdromes.

Until the war put even lumber on the critical list and necessitated measures for its preservation, the immediate line of defense of wood structures against fire was furnished primarily by automatic sprinklers, carbon-dioxide systems, and fire extinguishers. But a shortage of metal for civilian construction, transcending that of lumber, speeded up the development of fire-retardant products.

The field is so new and so many factors are involved, that reporting, rather than engineering recommendations, is still in order. The constitution of the inert material is of importance. Having an excellent product, it is essential to apply it in accordance with the hazard.

Recent tests of a phosphate-alginate paint developed at the Forest Products Laboratory, Madison, Wis., showed:

Results of Tests

1. That applied at the rate of one gallon for 50 square feet to an attic test assembly this paint permitted little damage to be done to the structure by a 3.1-pound thermit incendiary bomb after 10 minutes of exposure and the dying out of the fire, whereas an unpainted test structure was burned up in 30 minutes.

2. That with a 3.25-pound magnesium bomb, the spread of the flame was retarded but not entirely stopped. This test showed that protection must be increased when the severity of the fire hazard is increased. When one gallon for 35 square feet was used, the spread of fire from this bomb was stopped.

Equal control of flame spread was shown by pressure-impregnated wood (3 pounds retention per cubic foot), except that the underlying untreated flooring became ignited by heat transmitted through the floor. The same thing happened when a 10-pound thermit incendiary was employed: the untreated subfloor ignited. The phosphate-alginate paint, spread at the rate of a gallon to 35 square feet, controlled the spread of flame from this sized bomb.

It is pointed out by G. C. McNaughton, Senior Engineer of the Forest Products Laboratory, that these fire-retardant paints must be applied in adequate thickness; that they show results in proportion to the severity and duration of the fire; that they belong on wood construction which will prevent a ready access of heat to unpainted parts of the structure; and that, properly used, they offer very definite protection from the spread of fire.

Thus there are two major methods of making wood less flammable: (1) impregnation which places within the wood such water-borne chemicals as mono and dibasic ammonium phosphate, ammonium sulphate, borax, boric acid and zinc chloride, and (2) the application of coatings carrying fire-retarding chemicals.

Obviously the more costly method is impregnation, possible $50 per thousand board feet over the cost of untreated lumber. This method, moreover, is not possible for structures already built. Fire-retardant chemicals, on the other hand, can be brushed or sprayed on any surface with minimum labor requirements and less use of critical materials.

The mention of critical materials raises the question of availability of fire-retardant chemicals. By no means all are available for present civilian use. The result has been a strong effort to use the emergency for developing, not mere substitutes but commercially available fire-retardant materials fully effective in their own right.

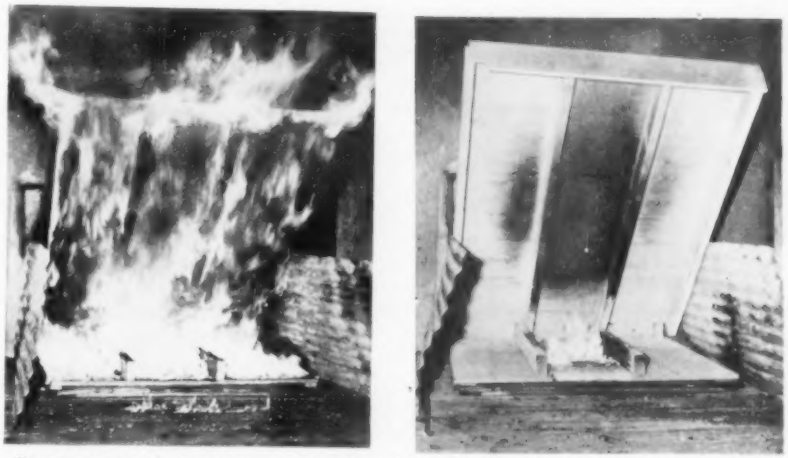
A New Fire Retardant

One of these is Firepel ("fire repel") "S" made by the Albi Firepel Corporation, New York. After several years of development work, a preparation called Firepel was placed on the market in September, 1942. Soon thereafter the War Production Board restricted its use to military purposes. Meanwhile the company had been working on a fire-retardant coating, Firepel "S." When tests indicated its potential value, this new retardant was turned over to Underwriters' Laboratories, Inc., for examination and tests.

As the purpose of this aqueous chemical coating is to reduce flame spread, fuel and smoke, the tests covered these factors which, in comparison with uncoated red oak, as 100, were determined to be 65 for flame spread, 40 for fuel contribution and 15 for smoke. Flame spread, of course, is the susceptibility of materials to ignite and is the most dangerous factor in any fire. Fuel is what keeps the fire going. Smoke is one of the handicaps in fighting fire, and the less the smoke the better the chance of controlling the fire.

Even before the completion of the Underwriters' report, news of this material had traveled and a number of industrial plants had completed applications to new frame construction. The largest single application was the coating of 1,000,000 square feet of wood framework in the Brooklyn Navy Yard.

A recent severe application was in connection with the filming by the Army Air Corps of various methods used to extinguish crash fires. A full-scale model of a B17 bomber was built of wood, and the fusilage and wing wooden framework were coated with Firepel "S." This was in no sense a test of the retardant. Its purpose was to keep the big bomber model from being burned up before the extinguishment demonstrations could be made. As a matter of fact, though 150 gallons of gasoline were spilled inside the model and 170 gallons sprayed over its outside surface, the wooden model did not burn down and the structural strength of the framework was not impaired. In fact, at the close of the demonstration, the officer in charge directed attention to "the most amazing flame-proofing product I have ever seen."



These two wood structures, untreated at left and treated with Firepel at right, are shown 2¼ minutes after they were ignited by simulated 3-pound magnesium thermit bomb.

California Tackles Post-War Problems

By Gordon Whitnall

THE question of post-war replanning and reconstruction in urban areas is currently receiving much attention in California. Governor Earl Warren has publicly declared that the problems and opportunities involved include, as a primary consideration, the issue of local autonomy as against federal direction. At the same time, but in an unofficial manner, the whole question of enabling legislation is receiving attention through a well-organized representative movement not limited to official planning agencies. Town Hall, Los Angeles, through its Section on Planning and Regional Development, is directing the studies and serving as a clearing house with the material assistance of a grant-in-aid from the John R. and Dora Haynes Foundation.

Present efforts are directed towards developing legislation by the state of California under its present broad constitutional powers and under which it is being tentatively proposed to grant to the state and its subdivisions all requisite authority for engaging in comprehensive replanning, the essential assembling of land, and the making of such assembled lands available for reconstruction in conformance with the comprehensive general plans of any particular jurisdiction undertaking such a program.

California already possesses constitutional authority for the extended use of eminent domain. Preliminary and tentative consideration of the subject contemplates that so far as the issue of eminent domain is concerned in effecting the necessary assembling of lands for replanning and reconstruction, the right shall be vested not only in agencies of government, but also in private limited-dividend corporations somewhat similar to the New York, Michigan, Illinois and Kentucky provisions, and also to certain public utilities—especially railroads. The present program is in no sense intended to be limited to so-called slum clearance, but is expected to also include the melting down and recasting of unwisely subdivided and promiscuously used lands into substantial, strategically located, industrial areas as well as areas for other purposes.

New York Will March On— If It Will Expand Its Planning

IN a series of editorials headed "New York Marches On," No. IV of which appeared on May 8, the *New York Herald Tribune* has been analyzing the prospects ahead for the nation's metropolis. The prediction is optimistic—subject to the qualification that "its full realization will need the cooperation of all loyal residents of the metropolitan area in an effort to make the town and its environs a better place to live in from any point of view."

"This effort," says the *Herald Tribune*, "should take the form of perpetuating enlightened and honest government, city planning on a comprehensive scale, including housing reform and a solution of the traffic problem, and of course, an ever-accentuated program of port improvement, both by air and sea. Surely, also, labor and management, the city and state authorities should attend seriously to the problem of wage and tax differentials with the object of braking the outward flow of manual industry seeking lower production costs. . . .

"We must preserve the essential characteristics that provided the compelling reasons for the establishment of so much of America's industrial management here in the first place. Beyond that we must expand our planning to meet the requirements for leadership in the post-war world. New York's destiny as the world's greatest and most civilized capital must be fulfilled."

Complete the Fire Alarm System

FIRE-ALARM signaling is accomplished under emergency conditions at all times. Fire out of control in itself constitutes the most serious emergency that can happen in a congested business or residential area. In May 1936, following the worst flood in the history of Pittsburgh, the fire chief said: "The fire-alarm system, exclusive of the boxes under water, functioned 100 per cent. Not an alarm of fire was lost during a period of five days, although light, power, and transportation were suspended. During this period our office transmitted 189 alarms for fire." A Boston newspaper article, published after the hurricane which swept New England in September 1938, stated that when hundreds of electric light and power wires fell before the crumpling of entire lines of trees frenzied citizens kept ringing in; and that the Boston fire department responded to more than 350 alarms during the storm. If this were standard experience, there would be no question about maintaining complete police and fire signal systems.

However, in practically all of the older signaling systems throughout the country the boxes are unable to send their signals over broken or otherwise disordered circuits. When a circuit is broken, all of the boxes on that circuit are out of service; when a cable, containing the wires for a number of circuits, is broken, a great number of boxes are incapacitated, and a large municipal area is destitute of fire-alarm protection—if the cable also contains the alarm circuits over which alarms are sent from the central alarm station to the fire stations, the fire-fighting forces are left without any means of receiving alarms, except possibly by telephone, should the telephone wires have escaped disruption.

Emergency Power Supply

Reserve power and reserve equipment are items of vital importance in maintaining the dependability of signaling systems under emergency conditions. Storage batteries of adequate capacity have long been recognized as the standard means of supplying electrical current for the operation of these systems, but there must also be provided dependable means for charging the batteries. Every municipal signaling system should have a stand-by independent power supply source, such as may be provided by a gasoline engine-driven generator, or sufficient capacity to supply battery charging current and temporary lighting for the central alarm station. Spare boxes, recording instruments, batteries, rectifiers, vital parts that can be destroyed or removed, and quantities of wire and cables of the kinds and capacities used in each system should be kept in stock.

Too many communities, both large and small, have created at great expense an efficient fire department, with equipment and water supply adequate to cope with conflagrations; and having added a signaling system, rest in a false sense of security and glow with civic pride when reciting their accomplishments in providing for the public safety against fire. Then they start wondering why a large percentage of alarms continues to come in over the telephone. The answer is incompleteness of box coverage. Because of the emergency nature of signaling systems, sometimes under stress and havoc of storms, high winds, and sabotage, adequacy is as essential as dependability in the signaling system. Yet American municipalities are on the average 75 per cent deficient in this respect.

A single hose stream is capable of extinguishing almost every fire with nominal loss if the alarm is given in time. Yet the Chamber of Commerce of the United States pointed out that practically no city in the country has enough fire-alarm boxes.

Community Forests

A DISCUSSION of the uses, management, and administration of community forests is contained in a report on forestry in New England,* by Henry I. Baldwin, Assistant Forester of the New Hampshire Forestry and Recreation Department and Consultant to Region 1 of the National Resources Planning Board.

Three main functions of community forests are pointed out. Municipal *watershed protection* has met with general approval. Since town forests are usually situated near urban or residenial areas, they offer exceptional opportunities for *recreational* use. Hunting and fishing, camping, skiing, and other outdoor pastimes have developed and hold their place in no small measure because of the various direct or indirect influences of the forest. The possibilities for *timber production* have been less emphasized, we are told, but use of town or municipal forests as local supplies of wood for manufacture and fuel often provides employment and hence is an important aid in reducing town relief expense.

It is emphasized that multiple-use management is particularly appropriate for municipal forests, where the recreational and protective functions are often dominant, but where accessibility makes intensive silviculture economically possible to the ultimate improvement of other uses. Just as forests managed primarily for timber production may still contain areas of major recreational use, parks may well include some careful selective cutting as a subordinate use without endangering their recreational and scenic assets.

As a result of the study made of New England, Mr. Baldwin finds that one of the chief factors retarding the progress of silviculture and forest utilization on town forests has been the inability of small town forests to support technically trained supervision. Only a few of the largest municipal water supply forests can afford full-time or part-time resident foresters. As a necessary step toward fuller development of town forests, he recommends definite assignment of a state district forester to supervise them, or the operative employment of foresters by organized groups of town forests.

"The future value of community forests," the report warns, "will depend upon the wise administration and development of their potentialities for community benefit. There are large areas of suitable land near most cities and towns. Town forests must have more consideration in overall community planning."

* "Forestry in New England," published by the National Resources Planning Board, Region 1, Boston, Mass., in December, 1942, is intended as a starting point for study by a forestry committee composed of representatives of the state forestry departments, the U. S. Forest Service, New England organizations interested in forestry, and many individuals directly interested in one phase or another of forest problems.

Proposals for Organization and Operation of Regional Councils in Metropolitan Areas

First Prize Winner

By HARVEY F. PINNEY, PH.D.
Principal Administrative Analyst, Organization Planning Division, Office of Price Administration

REGIONAL COUNCIL CONTEST AWARDS

Announcement was made on May 18, at the annual meeting of the American Society of Planning Officials, of the awards by the Committee of Judges in the Regional Council Contest. This competition for the best proposal for the organization and operation of a regional council in a metrpolitan area was undertaken at the suggestion of a donor (who prefers to remain anonymous) representing a St. Louis regional fund.

The purpose of the contest was to develop practical suggestions for bringing about effective cooperation between large cities and their surrounding metropolitan areas in the preparation and carrying out of rational plans for future development. The announcement of the contest suggested that the regional council as proposed, be so set up as to give consideration not merely to regional area planning as that term has been generally understood, but also to existing and potential industrial, commercial, transportation, recreational, and other human factors, and to problems of taxation and cooperative inter-governmental relationships affecting the well-being and program of the whole area.

It was further proposed that the regional council should be so constituted as to enlist the cooperation of recognized leaders in various fields of enterprise and civic interest throughout the area—men and women who would be willing to devote time and talent as councilors to the comprehensive development of the metropolitan region.

Of the eighteen contestants, none received a majority vote for first place, but four of the entries seemed to rank ahead of the other fourteen. It was decided, therefore, to divide the $500 prize money into a prize of $200 and three second prizes of $100 each. Abstracts of the four prize-winning proposals appear on this and the following pages. The ultimate answer—if there be an ultimate answer—to the problem of regional organization for planning may be found in a combination of some of the ideas presented in all four of these schemes.

It is hoped that early publication may be made in mimeographed or pamphlet form of the full text of the manuscripts here abstracted.

FOR the background of this plan, it is assumed that our constitutional system of government with its separation of powers will continue, as will also the three levels of government: Federal, state, and local. It is anticipated, however, that the Federal Government will exercise proportionately more influence over local government after the war than before, that the grant-in-aid system will expand, that the movement for simplification and consolidation of local government will grow, and that there will be no diminution in the use of *ad hoc* governmental agencies. In addition, governmental taxing, spending, and credit activities will play a much larger role in our economy, technological changes will change the landscape and progressively revolutionize materials and processes, public health will enter a new era, leisure time will present a tremendous social opportunity, and numerous other post-war developments will affect and be affected by intelligent planning.

Essentially the plan provides:

(a) A basic agreement among the Federal, state, and central city governments (with as general approval as can be obtained) constituting the Regional Council and defining its powers over the initiation, development, review, approval and administration of projects committed to its jurisdiction within the region. It is suggested that the focal power be that of review and approval or disapproval, with explicitly stated opinions, of plans and projects initiated by itself or by other agencies operating in the region.

(b) The Council to be made up of three representatives for the Federal Government (a planner, an economist, an engineer), three for the state government (a planner, a local government expert, an engineer), and three for the central city (an economist, a health expert, and a housing expert); representation to be modified where two or more states or major cities are involved; the Council members "to be persons of statesmanlike character, mature in judgment, experienced in public life, progressive in outlook, and thoroughly acquainted with the language of planning and with the basic methods essential to successful planning;" nomination by official planning agencies of the government represented, or by professional associations; appointment in regular established manner for such governments; and where feasible, operated on a full time paid basis.

(c) The Council to have a secretariat to serve as a staff for research, planning, and technical consultation, to be organized generally into three sections performing appropriate functions: (1) economic analysis, (2) engineering analysis, and (3) administrative analysis; the secretariat to maintain a library and other essential planning facilities and to serve the Council in the development of plans and projects and in the technical appraisal of plans and projects proposed by other agencies.

The secretariat is essential to providing a highly skilled professional body with a definite responsibility to think continuously in regional terms, to build up an adequate factual basis for appraising proposals of interest to the region, and to supply the Council with impartial technical advice on controversial matters brought before it for decision.

(d) The use of advisory bodies and *ad hoc* committees for developing particular sets of data, for discovering and analyzing community needs and opinions, and for appraising technical aspects of proposed plans and projects; the secretariat to have the responsibility for seeing that each such advisory body or committee is properly organized, has a clear objective for its work, meets regularly and keeps records, reviews its work and makes recommendations, and is properly serviced for its secretarial needs.

(e) A set of specific steps for initiating a movement in any particular region to set up such a Council.

In application, the plan should make use of the library and research facilities of the region, its power to finance economic and social improvements, its cosmopolitan political resources, its already existing tremendous capital investments, and its social energy and occupational and professional skills.

LEADITE

Trade Mark Registered U.S. Pat. Office

The Pioneer Self-Caulking Jointing Material for Bell and Spigot Water Pipe

Products

LEADITE and the following tools and equipment for use with LEADITE:

BRAIDED JUTE, JOINT RUNNERS, GASOLINE and WOOD BURNING MELTING FURNACES, POURING LADLES, POURING POTS, YARNING IRONS and METAL POURING GATES.

Description

Leadite is principally used for making joints in cast iron bell and spigot water mains; is shipped in powder form in sacks containing 100 pounds.

Users

Water works superintendents, engineers, contractors, mines, railroads and industrial plants all over the world use Leadite. Thousands of miles of pipe jointed with Leadite are in service.

Method of Use

The joint space is first "yarned" and the Leadite is melted and poured into the joint, but requires no caulking. Leadite melts at approximately 250° F. Lead melts at approximately 620° F.

Comparative Quantities

One hundred pounds of Leadite are equivalent to approximately four hundred pounds of pig lead based on the joints being made the same depth with either material. It will be easy to figure the approximate quantity of Leadite required for any given quantity of pipe by referring to our Reference Table, copy of which we shall gladly send to you upon request.

Comparative Cost

Under normal conditions, the economies effected by the use of Leadite save approximately 50% to 75% over the method which requires caulking, owing to the saving effected in material and labor.

Saving

Because Leadite saves on the items of caulking charges, digging of large bell-holes and reduces cost of trench pumping to a minimum, Leadite eliminates most every superfluous operation in jointing cast iron water mains, thus permitting the work to be completed with the least amount of effort.

Tools

As no caulking is required, fewer tools are needed.

No Caulking

Leadite joints require no caulking because Leadite adheres to the pipe from the yarn or jute out to face of bell, making a watertight bond. However, a Leadite joint may be melted or cut out at any time if desired in making connections, etc.

Durability

Leadite has been tested and used for more than 40 years and experience has proven that Leadite joints improve with age.

Expansion and Vibration

Leadite is used with excellent results under railroad tracks, highways and over and under bridges where severe vibration has demonstrated the value of using Leadite on this class of work.

Utility

Leadite is very easy to handle. It is used on all sizes of pipe from four to eighty-four inches in diameter and under all conditions and pressures encountered in water works construction.

Electrolysis

Leadite resists electrolysis.

Damage Suits

Claims for damages caused by joints blowing out are reduced because Leadite joints, if properly made, will not blow out under any pressure common in water works construction.

Transportation

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Second Prize Winners, Regional Council Contest

I

By O'Brien Boldt

THE proposal for a Regional Council here presented contains many specific details of organization, administration, and procedure. Their importance, however, is not in their exact form, but in their suitability as implements to the essential principles which underlie this proposal.

Reduced to simplest form, these principles are:

1. That such an agency must come to grips with the toughest and most controversial questions which today confront metropolitan people and city administrations, rather than confine itself to technical problems only.

2. That it must rely for strength and effectiveness on the most democratic form of organization and the widest participation in its activities which can possibly be achieved; for if it seeks to be a small group of wise men, bestowing perfect plans upon the populace, it will soon die without ever having been very much alive.

It is with the means of achieving a democratic form of organization that this plan is primarily concerned. The initiation must come from a group of citizens who perceive the problem and the need. This proposal envisions an intense recruiting campaign to enlist the support of those having the actual powers of decision in the metropolis—leaders from government, enterprise, and labor. And it is important that the participation of these leaders should spring from a strong desire of their supporters that they render this service. This campaign, which is outlined in some detail, is expected to culminate in a convention which shall form itself into a Regional Council.

Council to Meet Annually

It is proposed that the Council, which will only meet annually, delegate its powers to committees elected from its own membership. The three main groups represented—government, enterprise, labor, and in some cases some of the secondary groups—would separately elect representatives to these committees. A committee is suggested for each of the problems confronting the metropolis. Each committee would annually submit a program for its activity. The central point is committee concentration on securing action, getting full mechanical and publicity help from the central agency, and getting local contact and the public ear through district Council activity, in driving home its program.

It is proposed that the Annual Council, again by groups, elect representatives from those elected to committees to an Executive Board, which might range from 3 to 9 men. The Executive Board would be responsible for general coordination, for the further development of general policy along a line indicated by the Annual Council, and for control of the central agency. The Executive Board, together with the committee chairmen would form the committee responsible for a detailed annual program of action.

The central agency, directly responsible to the Executive Board, would perform all the mechanical work necessary to the operation of the Council. It would include:

(a) An Office Manager, who would be responsible for a pool of clerical workers and the finances of the organization;

(b) An Information Director, responsible for a complete library and index on the work of the Council and the problems with which it is concerned;

(c) A Production Director, responsible for the "technical" output of the central agency, but his function as conceived in this proposal would be in some ways unique—to effect the merging of the "technical" and the generally understandable, to breathe new life and fire into the painstaking "survey and plan for improvement" which tends to stiffen with technical details;

(d) A Public Relations Director, responsible not only for newspaper and magazine presentation of the Council's activities and aims, but for expediting and stimulating the work of Committees and District Councils in enlisting public participation. As the link between the Council's agencies and other organizations, he would also be responsible for keeping the current running through those links.

Rounding out the structure of the Council, the formation of District Councils is proposed. Such District Councils are conceived as the centers of widespread participation of citizens and local organizations in the work of the Annual Council. They would have committees charged with the organization of district drives, campaigns, community educational programs, and the responsibility for continually stimulating local planning activity.

Underlying this whole proposal has been an effort to conceive a machinery for metropolitan coordination and cooperation, which would ultimately avert the danger of the Council's growing in upon itself and fading from the public consciousness and interest. These elements should afford the basis of sustained vitality:

1. Initiation and maintenance upon a wide base of representation and participation;

2. The provision of channels for the expression of the views and aims of all groups, with the fertilizing influence of conflicting views committed to the achievement of a common program;

3. The provision of channels for the contribution of individuals by a machinery which is constantly open to new aspirants and which affords useful participants wide contact and recognition;

4. Education and public activity programs designed to enlist interest and provide methods and environment for development of that interest into active and creative contribution, as distinguished from familiar procedures which rely too heavily upon the passing down of perfected ideas to an indifferent multitude.

II

By Norman J. Gordon

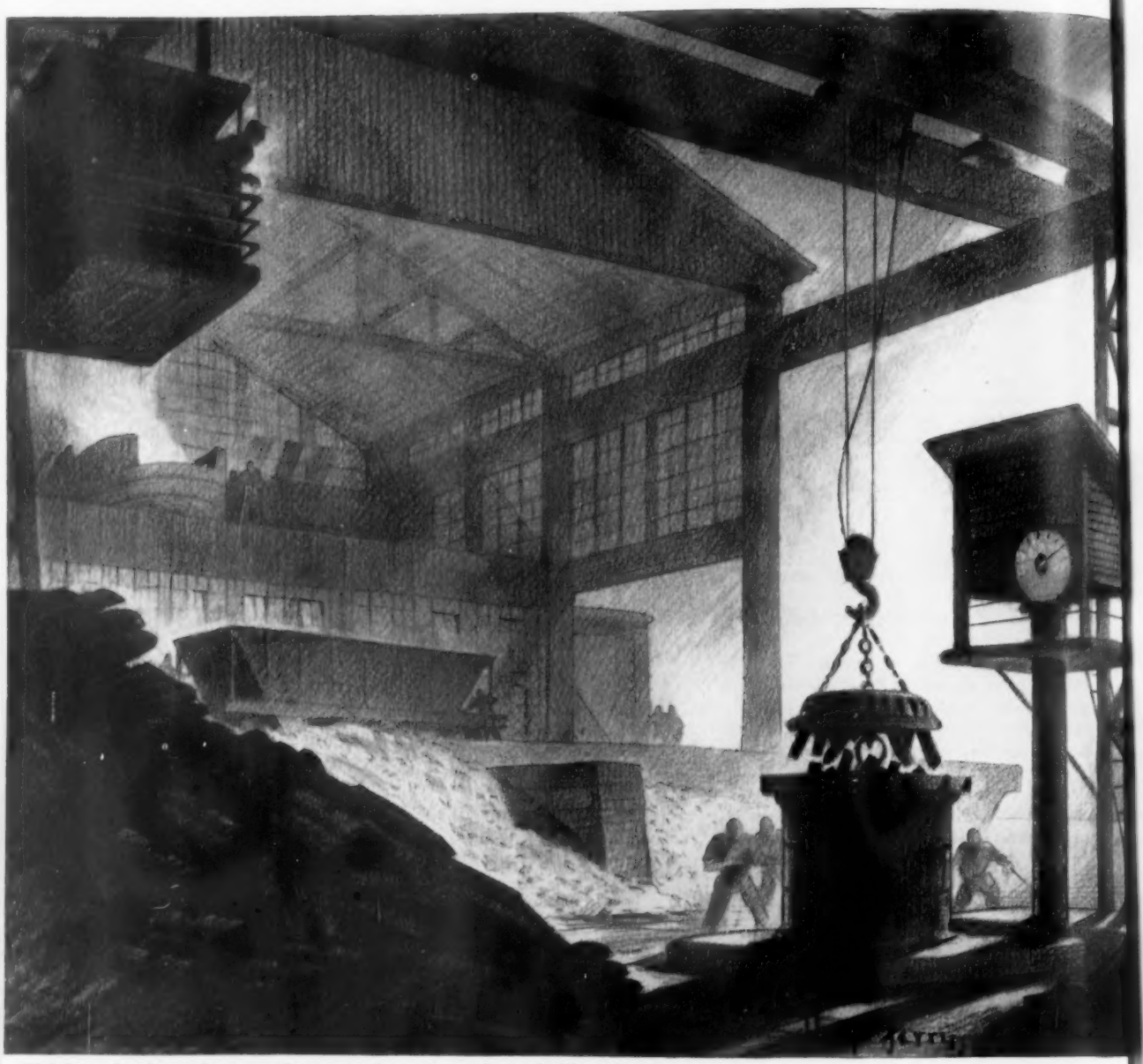
THIS plan attempts to recognize the necessity of a changing Regional Council organization. First a desirable set-up of a regional planning organization imbedded in a metropolitan government is described, an organization which is admittedly theoretical at present. Then, a Regional Council is outlined which can be immediately organized within the political structure of our metropolitan areas. A few ideas about the transition from the "first stage" to the "final goal" are included as a conclusion.

The "first stage" Regional Council is directed by a Planning Commission of seven members appointed by the chief executives of the central city and surrounding cities, with representation proportional to population. A chairman is elected by the Commission itself. They direct the operation of a planning staff headed by a planning director. Aiding the Commission are two advisory councils: the Officials' Advisory Council, chosen by the legislatures of the various municipalities in the area, and the Citizens' Advisory Council, appointed by the chairman of the Planning Commission. The chairman presides in meetings of both councils.

The staff, which engages in technical studies, is composed of six divisions (more or less, depending on the problems of the area). These include divisions on metropolitan development, zoning, public works programming, redevelopment and housing, public utilities, and government research.

Funds for the support of the Regional Council should come from vol-

From the ground up



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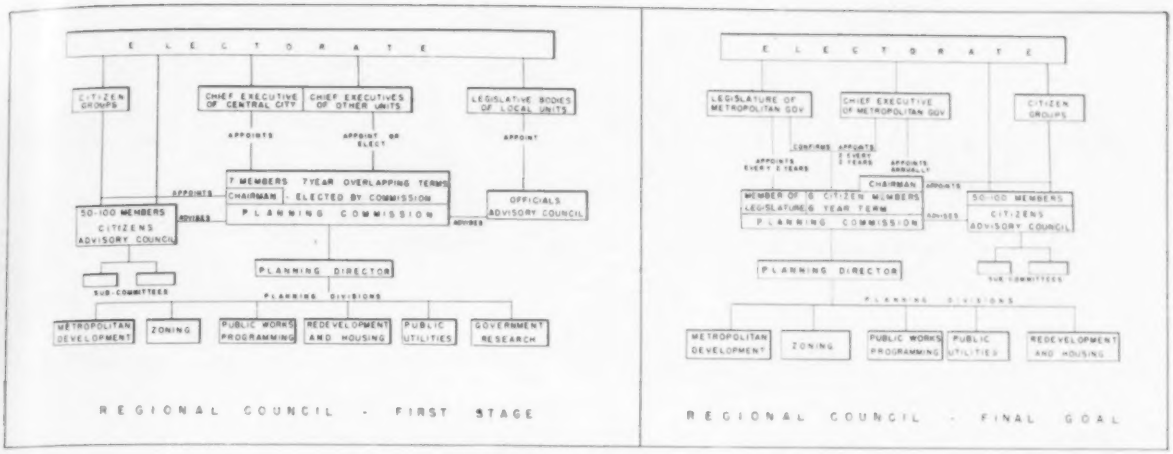

First and final stages as proposed by Norman J. Gordon

untary contributions, and donations may be proportional to assessed value or population. Although this method of financing is uncertain, it has its advantages. It stimulates pride in a common program and avoids the feeling of a large outside organization telling smaller municipalities what to do.

This organization is the expedient solution to the present problem. For with the tax structure and political set-up of metropolitan areas as they are now, complete cooperation on all elements of the plan cannot be expected. Of course effective planning can be carried on by this organization. However, for the most effective planning some form of metropolitan government is necessary. Just how this government will be developed, is speculative at present. The division of government research of the "first stage" organization should facilitate the development.

The "final goal" Regional Council is incorporated in a metropolitan government and would have a slightly different organization from that of the "first stage." This "final goal" organization has a Planning Commission composed of seven members, one of whom is appointed by the legislature every two years, while the remaining six are appointed by the chief executive with the confirmation of the legislature. Policy of the Commission is tempered by advice from the Citizens' Advisory Council composed of between 50 and 100 members appointed by the chairman of the Planning Commission. Sub-committees are formed in the Advisory Council to help solve special problems.

The Planning Director and his staff work on the programs determined by the Planning Commission. The staff is divided into five divisions: metropolitan development, zoning, public works programming, public utilities, and redevelopment and housing.

The jurisdictional area of both the "first stage" and "final goal" organizations is revised every ten years to include the area within five miles of the metropolitan boundaries defined by the United States Census. This will enable the Council to deal with problems of the urban rural fringe.

The organization of the two stages is indicated on the accompanying organization charts.

III

By Frederick P. Clark and Charles McKim Norton
Regional Plan Association, Inc., New York

MOST of the larger cities of the country have outgrown their central political boundaries. A number of important urban problems, which once were city-wide, have now become region-wide. Eventually some form of metropolitan government may have to be established in order to cope with this situation. Pending the time, however, when adequate and workable representative government may be evolved for any given metropolitan area, there is need for the existence of an unofficial regional council, representative of the various geographical and political sectors of each metropolitan area and its commercial and industrial activities.

Purpose of the Regional Council

The Regional Council should be an agency through which representatives of the metropolitan area come together to analyze problems and projects affecting the metropolitan area as a whole; to develop and promote joint plans and programs for action by proper public authorities and private interests. Specifically, the Council should serve five purposes:

1. To gather and disseminate data bearing on the metropolitan area's economic, physical and social development, pointing out regional problems requiring region-wide action;
2. As the region's spokesman, to prepare and give concrete expression to comprehensive solutions of metropolitan problems;
3. To stimulate regional development to meet economic, physical, and social needs without limitation by political boundaries;
4. To promote united action by different agencies of government in the solution of specific regional problems;
5. To promote neighborhood and community planning *throughout* the metropolitan region.

Method of Organization of the Council

In order to gain national recognition of the need of war and post-war metropolitan planning and to fix attention on it, we suggest that the President of the United States make a declaration of the need of regional councils for metropolitan areas which contain a population of, say, 500,000 or more. The President should urge the governors of the states in which the centers of the largest metropolitan districts are located to recognize and support regional councils, and, if necessary, to stimulate their organization.

The Council itself can best be organized by a group of leading citizens from the central city and suburban county or counties which make up the metropolitan area. Such a group of citizens should form a membership association known as the ..... Re-

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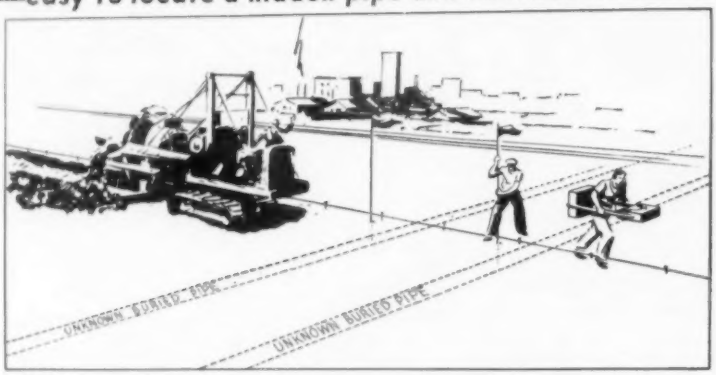

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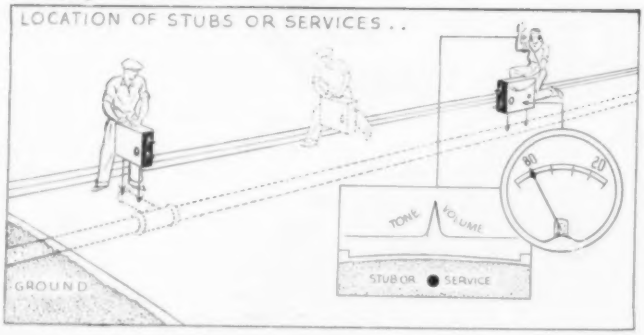
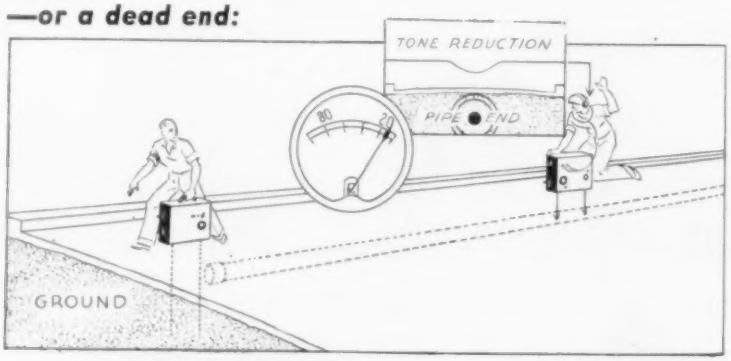


—or a dead end:



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gional Council, or some similar name suitable to local conditions.

Membership should be open to any individual, government agency, or private organization sufficiently interested to pay dues. Dues should be nominal in amount to encourage widespread membership.

By-Laws of the Council should provide for the number and selection of *directors* who, as a group, will constitute the working unit. No single plan of representation on the board of the Council can be presented, applicable to all metropolitan areas. Each has its own peculiarities and complexities, which should be taken into account in the details of organization. The board membership, however, should be related to population, political units, and economic interests. As metropolitan areas are made up of sectors set apart politically, geographically, or for a combination of reasons, each sector should be represented on the board of the Council. The incorporators of the Council will divide the region into these sectors, with the by-laws providing for amendment of sector boundaries as needed by changing conditions or experience. Representation by sectors, which have already achieved substantial unity of interest, will reduce the size of the board to a workable number of directors. In addition to directors chosen to represent sectors, a number of directors conversant with economic and social interests should be chosen at large to supply types of representation missing from the directors who are chosen on a sector basis. Conscious effort should be made to achieve a well-balanced board.

In view of the differences in size and complexity of metropolitan areas, the exact number of members of the board of a Council cannot be prescribed. A workable number would be 15. If for any reason a larger number should be needed, an executive committee should be provided. The board should retire one-third of its members annually, with re-election for successive terms permitted.

Representation of official agencies can best be had through membership on technical committees organized on functional lines. Officials may be selected for the board of the Council, but would serve for their knowledge and experience, and not as officials *per se*.

Representation from outlying areas within the 100-mile radius can best be obtained by a single board member from each state or portion of a state involved. Such board members might be chosen from directors of neighboring regional councils, thus providing liaison with adjoining metropolitan areas, if any.

Officers of the Council would be elected by the directors from their number and should include a chairman, a vice-chairman for each sector of the region, a treasurer, an executive-secretary, and a technical director. The Council *staff* will be determined by the program and finances.

The content of the program of a regional council will naturally be devised to meet the specific needs and problems of the metropolitan region which it serves. The program should, however, be built around three elements of activity:

(1) Research and Planning Program

The *Research and Planning Program* would be organized under several advisory committees, comprised of the most competent authorities in the region. Council staff would assist committee members who would work without compensation, but with expenses paid if finances permit. Important agencies to carry out plans and recommendations resulting from the research and planning should be represented from the beginning, so they will have participation in the work and will feel part ownership in the plans.

At least six committees should be organized, as follows, with provision of additional committees as needed by the situation in particular metropolitan areas:

Committee on Regional Economic Development

OBJECTIVES

(a) To determine the facts relative to current conditions and trends in the commerce and industry of the region.

(b) To prepare plans and recommendations which can be presented through the Council to all concerned for their information and possible action toward: (1) making the most of the resources and opportunities of the region for industrial development and trade; and (2) overcoming conditions and influences tending to impede the growth and prosperity of the region's commerce and industry.

(c) To promote public interest in the region's resources and industrial development and in the maintenance of conditions which will permit the most prosperous development of the region's commerce and industry.

SUBCOMMITTEES

This committee should have subcommittees on manufacturing, commerce, internal trade, economic research, and other subjects as the need may be in any given metropolitan area.

Committee on Regional Transportation and Communication

OBJECTIVES

(a) To determine the facts with regard to conditions of regional transportation and communication, and primary needs for improvement of such facilities.

(b) To prepare plans for improvement of the network of regional travel routes, transport facilities and their terminals which can be presented by the Council to the proper authorities for action resulting in (1) more expeditious and easier movement of persons and goods not only to the key central points of the metropolitan area but also between points outside the central area; and (2) greater economy of movement of persons and goods to lower the cost of living and doing business in the metropolitan area.

SUBCOMMITTEES

This committee should have subcommittees on passenger rapid transit, freight transportation, air transportation, highways and parkways, and other subjects such as water transportation needed in particular metropolitan areas.

Committee on Regional Problems of Taxation

OBJECTIVES

(a) To determine the facts with regard to the problems of financing public improvements and services used by all or most of the citizens of the metropolitan area.

(b) To prepare plans and programs for equitable taxation to provide and maintain regionally used facilities and services.

(c) To study and prepare plans for the elimination of overlapping taxing jurisdictions.

(d) To study the relation of federal and state taxes collected in the metropolitan area to benefits received.

(e) To assist the Council in building up public support and securing official action on the taxation policies and plans proposed.

Committee on Inter-governmental Relationships

OBJECTIVES

(a) To survey and present the facts relative to local governmental services in the region which could better be provided by joint action of several political units or by a new governmental authority, which would cover the entire metropolitan area or sections of the area. (This might apply to water supply, sewerage, port development or similar functions.)

(b) To study the relationships of agencies of the Federal Government to the metropolitan area in connection with the developments of regional importance and to promote the organization of federal agencies on an area basis corresponding to the metropolitan area.

(c) To promote, through the Council, public understanding and interest in simpler, more effective and more economical forms of governmental organization, and official action to achieve such results.

Committee on Regional Social Needs

OBJECTIVES

(a) To determine the prime social needs of the metropolitan area in the way of recreational opportunities, improved health measures, educational opportunities, hospital facilities and similar facilities and services which are important from a regional point of view as distinct from those things which are primarily local in extent and importance.

(b) To prepare and promote, through the Council, plans and programs to eliminate bad social conditions and to provide positive improvement of the human factors of regional development.

Committee on Regional Area Planning

OBJECTIVES

(a) To determine the facts with regard to the physical development of the metropolitan area as a basis for improved use and development of the regional land area in meeting the social and economic needs of the region's population, both present and future.

(b) To prepare plans for the regional elements of development and, through the Council, promote their adoption by the proper governmental planning authorities.

(c) In those parts of the metropolitan area where adequate planning agencies do not exist, to promote and assist in their establishment and organization.

(d) To study the adequacy of legislation and local ordinances for control of land use, and to promote improved basic state laws or local action where needed.

(e) To develop planning standards and procedures, and to promote their adoption and use by local planning authorities.

(f) To promote public acceptance of planning and aid in improving the effectiveness of planning by official planning agencies of the metropolitan area.

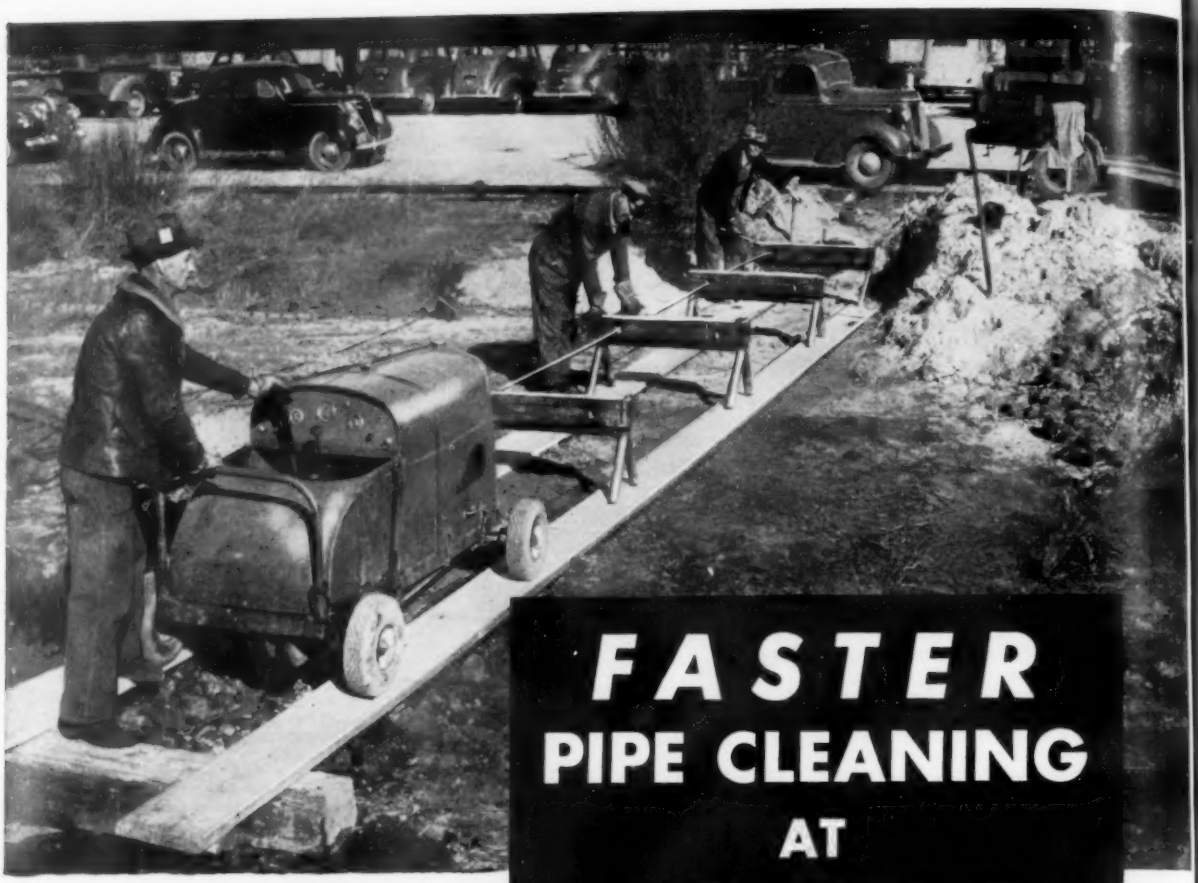
(g) To promote and aid in the formation of a regional conference of planning agencies, for the exchange of experience and increased coordination of action.

SUBCOMMITTEES

This committee might need subcommittees on planning standards, planning legislation, urban redevelopment and housing, planning education, zoning and subdivision control, and similar phases of urban planning as were sufficiently important in its region.

(2) Promotion of Action on Regional Council Plans and Programs

The advisory committees should assist the Regional Council with the promotion of its plans and recommendations, both in the direction of public understanding and of official action. In addition to appropriate publication and dissemination of the plans and supporting information, it is highly desirable to have a field staff of one or more devoting time to working with officials and agencies involved in carrying out of the regional plans and programs. (*Concluded on page 89.*)



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(5) Promotion of Regional Unity and Coordination

The Regional Council should promote and facilitate cooperation throughout the area since, without success in this direction, the adoption of regional plans will always require tremendous effort. With an established custom of regional cooperation, the fitting of local action into region-wide plans will take place more as a matter of course. This activity should include:

(a) An annual regional conference.

(b) Periodic special conferences on particular *regional* problems or on the problems of some sub-regional area as they relate to the entire region.

(c) Publication of a regional newsletter to encourage and facilitate regional thinking and working together; also use of newspapers and radio.

(d) Organization of regional conferences of officials and of other groups. An important method of promoting regional thinking and action is for the Council to stimulate and assist the organization of official and non-official groups covering the same regional area (for example, a regional conference of mayors, of tax officials, of planning officials, etc.; also, of social work agencies, of retail executives, etc.). An effort should be made to have each of these use the same regional designation in the title of its organization. These conference organizations should be kept independent of the Council organization, although maintaining close cooperation.

Method of Financing the Council

The Council should be primarily financed from private sources, at least until well established, with approval and support of primary political units of the region. Experience to date shows that regional planning organizations initiated with the financing from governmental subdivisions are not entirely successful, since one principal locality, failing to appropriate, results in gradual breakdown of financial support by the others. Initial financing should be arranged from organizations having a civic interest or economic stake in the healthy functioning of the metropolitan area. It is imperative that no selfish interest be allowed to enter the financial support of the Council in an amount or manner as to control or influence the work of the Council or appear to in the minds of citizens or officials.

Model Ordinance on Curfew for Minors

Prepared by National Institute of Municipal Law Officers

An Ordinance Regulating the Presence of Minors under the Age of — years in Public Streets and Other Places between the Hours of — P.M. and — A.M., Defining Duties of Parents or Others in Care of Minors, Providing for Arrest and Penalties for Violations Thereof, Repealing Ordinances in Conflict therewith, and Declaring an Emergency.

WHEREAS, An emergency exists by reason of wartime conditions now prevailing which have over-taxed the law enforcement agencies of the City of ———— because of influxes of population, overcrowded living conditions, the presence of numerous strangers and transients, transportation irregularities, special efforts required to prevent threatened sabotage, blackouts, darkened streets and public places, and the like, and

WHEREAS, Due to these wartime conditions now prevailing juvenile criminal delinquency has so increased in the City of ———— as to become a menace to the preservation of public peace, safety, health, morals and welfare, now therefore,

Be it ordained by the Council of the City of ————.

Section 1. LOITERING OF MINORS PROHIBITED. It shall be unlawful for any minor under the age of —— years to loiter, idle, wander, stroll, or play in or upon the public streets, highways, roads, alleys, parks, public buildings, places of amusement and entertainment, vacant lots, or other unsupervised places, between the hours of —— P. M. and —— A. M. of the following day, official city time; provided, however, that the provisions of this section do not apply to a minor accompanied by his or her parent, guardian, or other adult person having the care and custody of the minor, or where the minor is upon an emergency errand or legitimate business directed by his or her parent, guardian, or other adult person having the care and custody of the minor.

Each violation of the provisions of this Section shall constitute a separate offense.

Section 2. RESPONSIBILITY OF PARENTS. It shall be unlawful for the parent, guardian, or other adult person having the care and custody of a minor under the age of —— years to knowingly permit such minor to loiter, idle, wander, stroll, or play in or upon the public streets, highways, roads, alleys, parks, playgrounds, wharves, docks, or other public grounds, public places and public buildings, places of amusement and entertainment, vacant lots or other unsupervised places, between the hours of —— P. M. and —— A. M. of the following day, official city time; provided, however, that the provisions of this section do not apply when the minor is accompanied by his or her parent, guardian, or other adult person having the care and custody of the minor, or when the minor is upon an emergency errand or legitimate business directed by his or her parent, guardian, or other adult person having the care and custody of the minor.

Each violation of the provisions of this Section shall constitute a separate offense.

Section 3. PENALTIES. Any minor violating the provisions of Section 1 shall be fined by the judge of the Juvenile Court not less than ——— dollars nor more than ——— dollars, or confined in the detention home for minors not more than ——— days, or punished by both said fine and imprisonment, for each offense. Any parent, guardian, or other adult person having the care and custody of a minor violating Section 2 shall be fined not less than ——— dollars, nor more than ——— dollars, or confined in jail more than ——— days, or punished by both said fine and imprisonment for each offense.

Section 4. REPEAL OF CONFLICTING ORDINANCES. All existing ordinances of the City of ———— are hereby repealed insofar as they may be inconsistent with the provisions of this Ordinance.

Section 5. SEPARABILITY OF PROVISIONS. It is the intention of the City Council that each separate provision of this Ordinance shall be deemed independent of all other provisions herein, and it is further the intention of the City Council that if any provision of this Ordinance be declared invalid, all other provisions thereof shall remain valid and enforceable.

Section 6. FINDING OF EMERGENCY. This Ordinance is passed as an emergency measure, and the City Council does, by the vote by which this Ordinance is passed, hereby declare that an emergency exists, which makes it imperative that this Ordinance shall become effective forthwith, the nature of said emergency being as follows: Wartime conditions have overtaxed the law enforcement agencies of the City of ———— so that it is necessary to preserve the public peace, safety, health, morals, and welfare by restricting the presence of minors in the streets and other public places for the purpose of curtailing juvenile delinquency by making this Ordinance effective immediately.

Adopted this ——— day of ———, 194—.

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Problems of national, regional, state, and local planning—wrtime and post-war—will be discussed at a 3-day Citizens Conference on Planning to be held at the Hotel Fontenelle, Omaha, Neb., June 14-16, under the auspices of the American Planning and Civic Association.

The preliminary program shows an imposing list of able speakers, on power projects, reclamation, soil conservation, navigation and flood control, forestry, housing, urban redevelopment, rail and motor transportation, parks, highways, and other planning problems of concern to public officials and citizen groups.

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(b) Periodic special conferences on particular *regional* problems or on the problems of some sub-regional area as they relate to the entire region.

(c) Publication of a regional newsletter to encourage and facilitate regional thinking and working together; also use of newspapers and

(d) Organization of regional conferences of officials and of other groups. An important method of promoting regional thinking and action is for the Council to stimulate and assist the organization of official and non-official groups covering the same regional area (for example, a regional conference of mayors, of tax officials, of planning officials, etc.; also, of social work agencies, of retail executives, etc.). An effort should be made to have each of these use the same regional designation in the title of its organization. These conference organizations should be kept independent of the Council organization, although maintaining close cooperation.

Method of Financing the Council

The Council should be primarily financed from private sources, at least until well established, with approval and support of primary political units

of the region. Experience to date shows that regional planning organizations initiated with the financing from governmental subdivisions are not entirely successful, since one principal locality, failing to appropriate, results in gradual breakdown of financial support by the others. Initial financing should be arranged from organizations having a civic interest or economic stake in the healthy functioning of the metropolitan area. It is imperative that no selfish interest be allowed to enter the financial support of the Council in an amount or manner as to control or influence the work of the Council or appear to in the minds of citizens or officials.

AGES

SSING

or Minors

aw Officers

other provisions herein, and it is ier the intention of the City Council if any provision of this Ordinance be ired invalid, all other provisions of shall remain valid and enforce-

tion 6. Finding of Emergency. This nance is passed as an emergency meas- and the City Council does, by the by which this Ordinance is passed, by declare that an emergency exists, h makes it imperative that this Ordi- e shall become effective forthwith, nature of said emergency being as ws: Wartime conditions have over- d the law enforcement agencies of City of ———— so that it is neces- to preserve the public peace, safety, th, morals, and welfare by restrict- the presence of minors in the streets other public places for the purpose curtailing juvenile delinquency by ing this Ordinance effective imme- ely.

lopted this ——— day of ———, —.

———— as to become a menace to the preservation of public peace, safety, health, morals and welfare, now therefore,

Be it ordained by the Council of the City of ————.

Section 1. Loitering of Minors Prohibited. It shall be unlawful for any minor under the age of —— years to loiter, idle, wander, stroll, or play in or upon the public streets, highways, roads, alleys, parks, public buildings, places of amusement and entertainment, vacant lots, or other unsupervised places, between the hours of —— P. M. and —— A. M. of the following day, official city time; provided, however, that the provisions of this section do not apply to a minor accompanied by his or her parent, guardian, or other adult person having the care and custody of the minor, or where the minor is upon an emergency errand or legitimate business directed by his or her parent, guardian, or other adult person having the care and custody of the minor.

Section 3. Penalties. Any minor violating the provisions of Section 1 shall be fined by the judge of the Juvenile Court not less than ——— dollars nor more than ——— dollars, or confined in the detention home for minors not more than ——— days, or punished by both said fine and imprisonment, for each offense. Any parent, guardian, or other adult person having the care and custody of a minor violating Section 2 shall be fined not less than ——— dollars, nor more than ——— dollars, or confined in jail more than ——— days, or punished by both said fine and imprisonment for each offense.

Section 4. Repeal of Conflicting Ordinances. All existing ordinances of the City of ———— are hereby repealed insofar as they may be inconsistent with the provisions of this Ordinance.

Section 5. Separability of Provisions. It is the intention of the City Council that each separate provision of this Ordinance shall be deemed independent of

Omaha to Entertain Citizens Conference on Planning June 14-16

Problems of national, regional, state, and local planning—wrtime and post-war—will be discussed at a 5-day Citizens Conference on Planning to be held at the Hotel Fontenelle, Omaha, Neb., June 14-16, under the auspices of the American Planning nnd Civic Association.

The preliminary program shows an imposing list of able speakers, on power projects, reclamation, soil conservation, navigation and flood control, forestry, housing, urban redevelopment, rail and motor transportation, parks, highways, and other planning problems of concern to public officials and citizen groups.

Copies of the program are available from the American Planning and Civic Association, Union Trust Building, Washington, D. C.

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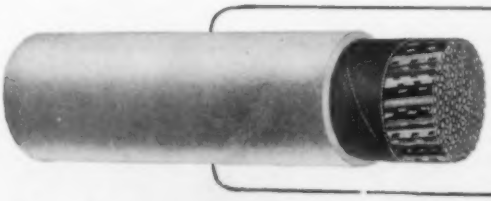


HAZARD

ELECTRICAL WIRES AND CABLES

Ten Years' Good Behavior

How Seattle Changed its University Bridge from a Dangerous Outlaw to a Model Citizen

BACK in 1932 the engineering department at Seattle, Wash., put an end to a serious "crime wave." Sinister and unobtrusive in action, it had succeeded in causing no less than six deaths and 162 injuries, as well as great property damage, without attracting much more than casual attention in the headlines. This offender was none other than the solid double-leaf bascule University Bridge.

Located in the city proper near the University district, it had been carrying traffic and exacting its toll of damage and deaths because of its slippery wood-block bridge floor for many years. However, by 1932 the traffic had grown to such an extent that widening of the bridge seemed imperative. A structural analysis indicated that widening with a standard floor, called for by good practice in the engineering field at that time, would actually require the construction of a new bridge.

However, Seattle, insulated with 3,000 miles of ocean on one side and the rugged Rocky Mountains on the other, seems to have developed a breed of engineers who pay little attention to "good engineering practice" if it doesn't make sense to them. Consequently, when the late John A. Dunford proposed the use of an open-mesh bridge decking, nobody out there worried because it never had been done before. Study instead was concentrated on the methods, costs, structural features, the amount of dead load that it would eliminate, probable maintenance problems, and its effect on this bridge's black record of accidents. As a result, in 1932 the city calmly completed what engineers now label with press agent zeal, "one of the revolutionary accomplishments in the history of bridge building." This consisted of widening the bridge enough to accommodate existing and anticipated traffic loads by using the sturdy, lightweight, open mesh Irving steel decking.

City Engineer's View

Let Seattle's present city engineer C. L. Wartelle, tell you how this bridge deck has come through the test of the years.

"As far as we know," he says, "the installation on the University Bridge was the first in the world." However, that in itself is unimportant. The significant thing is that in the past 10 years not a single fatality or accident attributed to a roadway condition has been reported. The old University Bridge with its non-skid floor has led an exemplary life.

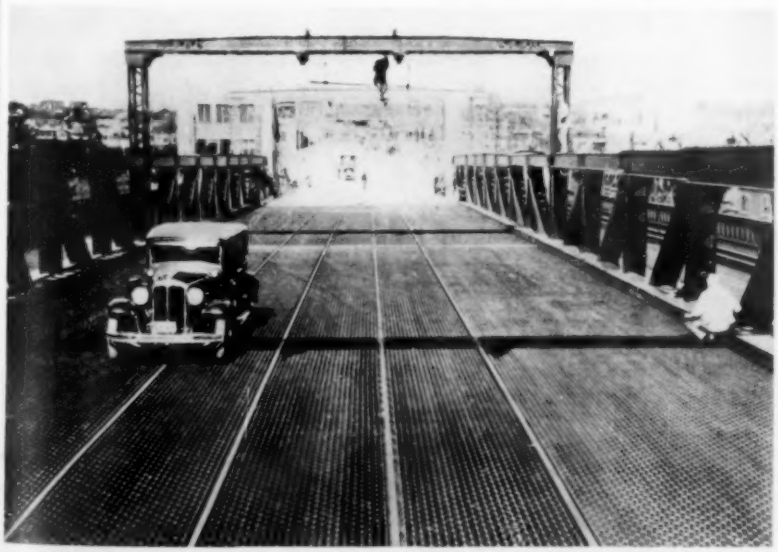
"The important consideration of maintenance costs too," he said, "has been excellent. The open mesh prevents rain from accumulating—a vital consideration on span bridges of this type—and has been highly effective in keeping the roadways clear of snow and ice in winter. Furthermore, we have not had to paint the deck once since its installation."

Seattle's Engineering Department's satisfaction with the University Bridge installation may be best reflected in the fact that two other bridges have since been resurfaced with this type of decking. They are the Fremont and Ballard Bridges, opened to traffic respectively on September 16, 1936 and May 25, 1940. Mr. Wartelle states that future plans also propose making replacements with open mesh surface, soon after the war, on two other bascule lift bridges.

Decking Gains Favor

To show that Seattle has not been alone in its use of open-mesh decking, one need only look at many of the bascule bridges built in recent years in New York's famous parkway system—including the Marine Parkway Bridge over Jamaica Bay, the longest highway vertical lift span in the world.

As a fitting termination, even "good engineering practice" has been impressed by the example of University Bridge; and today one will find that the profession generally approves this type of deck as standard for new bascule bridges. Many engineers anticipate that open-mesh decking will completely replace solid bridge floors constructed in the period after the war.



Seattle's University Bridge and the decking that changed its career from one of accidents and deaths to safety and economy.

Womanpower in Municipal Utilities

THE use of women to perform duties in municipal services, such as water works and sewerage, is proving successful, according to reports received here.

Max C. Bartlett, General Manager of the Electric Power and Water Board, Knoxville, Tenn., reports that girls are being trained for laboratory work and as filter operators. They also are replacing men in accounting and office positions. Homer A. Hunter, Water Works Superintendent, Dallas, Texas, states that women are being employed as chemists both in the water works and sewage-treatment plants.

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are you planning for his?

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About . . .

Airport Runways

And their Paving

By HENRY W. TAYLOR

As a plane glides onto a runway, its approach is theoretically and practically tangential. The first contact between the pavement and the plane wheels is the line of maximum bottom bulge of the tire. As the buoyancy of the plane decreases, additional weight is imposed on the pavement, the tire spreads, and the line of contact widens.

Pavement Markings

The markings on a bituminous pavement at an airfield are indicative of the landings made by the various pilots. In the case of a good landing, the marking consists of a blackened streak, which begins as a pencil point and gradually broadens to the width of the tire when it has received part of the weight of the plane. The point of the marking, when considered as the point of a sharpened pencil, will be about three or four feet in length; and the whole marking will vary from six to ten feet in length, when it suddenly disappears entirely.

A poor landing is recorded by a blunt marking, without graduated point, which disappears in a few feet and later reappears as a blunt marking, and may reappear for a third time. The angle of approach was too great and the plane has struck the pavement and bounced off again.

What They Mean

The question arises as to how these permanent markings are made and why they remain as evidence of the skill or inefficiency of the pilot, and of the demands placed on the paving material. The answer to the question has a decided bearing on airfield paving and the service which it must render.

When the plane is in the air, the wheels are not rotating, though they have the lineal velocity of the plane. As soon as the wheel touches the ground, it must either skid or start to rotate at a speed to accommodate the plane velocity. It skids momentarily, but as more weight is imposed on the tire, it acquires sufficient traction to produce a rotation corresponding to the plane speed. Assume that the plane speed on approaching the runway is 100 miles per hour and the wheel is three feet in diameter. In even figures, the plane speed is 150 feet per second; and to meet this speed of horizontal travel, the wheel must rotate at the rate of more than 15 revolutions per second. This acceleration takes place within the marking on the pavement. The marking is produced by the heat resulting from the friction required to start rotation, and this heat draws tar, or asphalt from the layers below the surface of the pavement and concentrates it on the surface. In the range of the marking there is, no doubt, some vulcanized rubber. The combination of the two produces the marking and leaves it there permanently.

Pavement markings bear evidence of the service imposed on runway surfaces. Wear of pavement surfaces and tires present a two-fold problem. Runway surfaces are required to meet diversified demands.

This need for acceleration of the wheels is recognized in the case of the larger planes—in that motors are installed on the wheel shafts—and this required rotation is initiated before contact with the airfield pavement takes place. It is apparent that the planes not equipped with this wheel starter impose on the tires the necessity of an almost instantaneous acceleration from dead still to high speed revolution. The traction necessary to produce this acceleration is supplied by the pavement with production of heat, and markings result.

Theoretically, the pavement experiences little load when the plane first contacts it; and the maximum load is experienced when the plane is still, with no air buoyancy. On the other hand, the pavement must provide traction and, at the same time, introduce as little wear as possible. If the pavement were not consistent in its ability to produce traction, and one wheel skidded without gaining rotary speed, the plane would tend to swing to one side and get out of control. The action is parallel, but opposite to applying the brakes. In one case the wheels are stopping the plane, and in the other case the plane and pavement are starting the wheels in motion. Herein lies one of the problems of airport pavements.

It has been suggested by several engineers that vanes be installed on the rims of the retractable wheels so that when the wheels are lowered, rotation would be initiated by a windmill action. Some device which would serve as a substitute for the large plane wheel motors would conserve rubber and pavement surfaces.

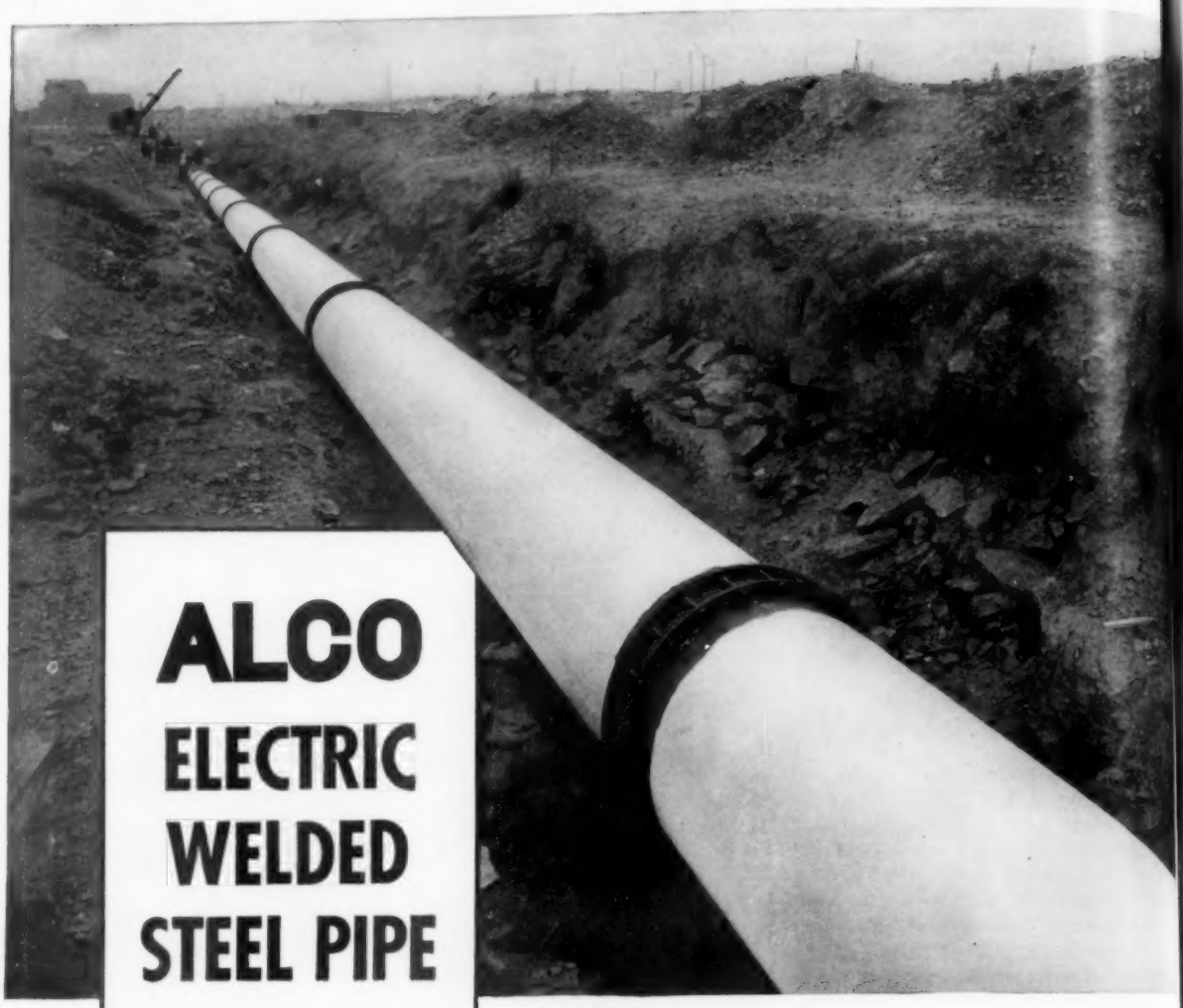
Tire wear during landing is recognized at many civil airports where light planes are used, by instructing pilots to land on grass shoulders. The paved runway is used only for taking off. Tire wear is appreciable even on the light wheels of the smallest training planes.

Other Problems

There are others. The pavment must drain quickly and pooling must be avoided. It must be properly crowned and properly sloped on the long axis. Underdrainage and adequate base courses must be supplied. On hardstanding areas, the pavement must be resistant to the dripping gas and oil during the warming up of motors and to the vibration which accompanies the warming, racing, and testing of motors. The latter conditions have led some engineers to use concrete for hardstanding areas in many designs, while other engineers are using concrete paving for the ends of the runways where landings occur.

Construction of runways and their paving, together with the stabilization of runway shoulders, involve many special engineering problems which are of first importance in war and peace. The lessons of recent construction will undoubtedly act as future guides to airport construction and maintenance problems.

Next month household garbage grinders will be analyzed, uncovering their effect on sewage treatment plants.



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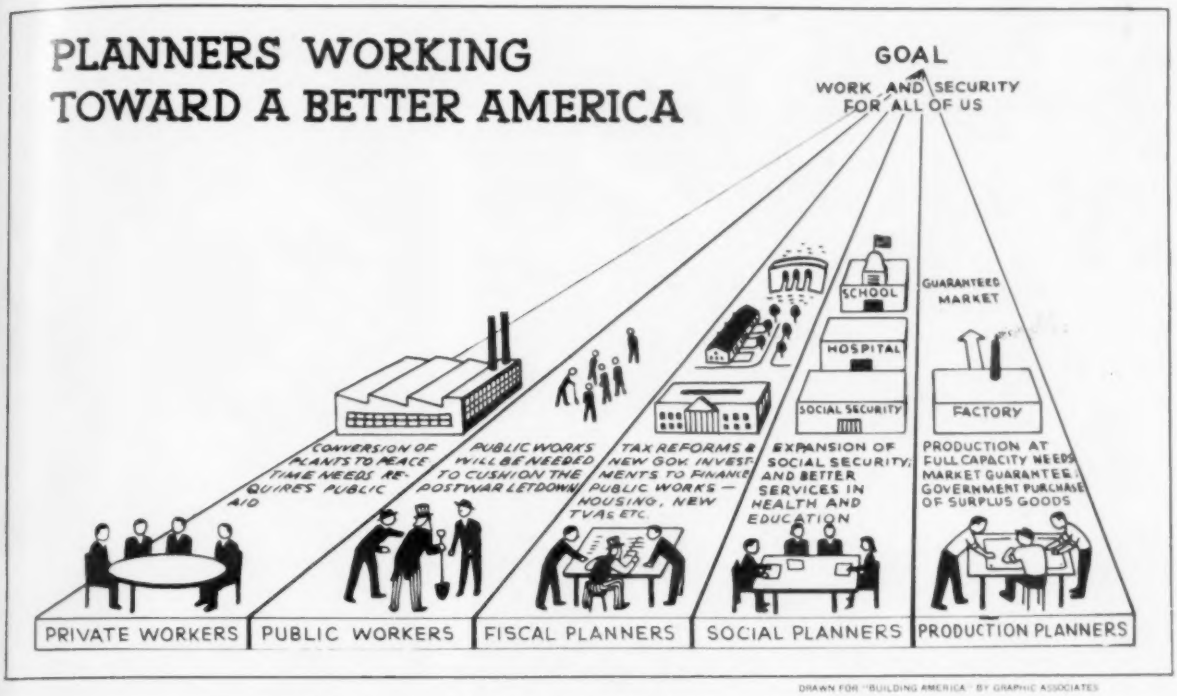
Planning Deeds and Needs Graphically Shown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GUARANTEED MARKET
FACTORY
CONVERSION OF PLANTS TO PEACE TIME NEEDS REQUIRES PUBLIC AID
PUBLIC WORKS WILL BE NEEDED TO CUSHION THE POSTWAR LETDOWN
TAX REFORMS & NEW GOV. INVESTMENTS TO FINANCE PUBLIC WORKS — HOUSING, NEW TVAs ETC.
EXPANSION OF SOCIAL SECURITY, AND BETTER SERVICES IN HEALTH AND EDUCATION
PRODUCTION AT FULL CAPACITY NEEDS MARKET GUARANTEE; GOVERNMENT PURCHASE OF SURPLUS GOODS
PRIVATE WORKERS
PUBLIC WORKERS
FISCAL PLANNERS
SOCIAL PLANNERS
PRODUCTION PLANNERS

DRAWN FOR "BUILDING AMERICA" BY GRAPHIC ASSOCIATES

Increasingly, popular and technical publications are being made interesting and vital by graphic presentation of facts and functions. This page shows two typical examples. The chart above is from Building America *for December 1942 —a special issue whose theme is "Planning for the Post-War World."*

The map below is from a recent report of the City Plan Commission of St. Louis, on "St. Louis After World War II." By thus emphasizing how blight has been progressively enveloping St. Louis, the Commission has increased the probability of constructive action on its proposals for solving the greatest economic and social problem that confronts St. Louis and many another large city.

BLIGHT PROGRESSIVELY ENVELOPS ST LOUIS

Between 1910-1920 St. Louis lost population in 12.6% of the city's area

Between 1920-1930 this loss extended to 25.8% of the city's area

BETWEEN 1930-1940 THIS LOSS EXTENDED TO 56.0% OF THE CITY'S AREA

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SYNTHETIC RUBBER is vital to the war effort . . . and water supply is vital to the production of synthetic rubber.

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How Two California Children's Theatres Are Functioning in Wartime

The Burlingame Children's Theatre

THE municipally subsidized Burlingame Children's Theatre is a special division of the Burlingame Recreation Department, which appropriates an operating budget for the theatre and pays the salary of the director, who is a member of the departmental staff. Each production is practically self-supporting from admission fees which are only 10 cents for children and 26 cents for adults, federal tax included.

A lay advisory board of twelve interested citizens determines the operating policies of the theatre and takes an active part in the theatre work. Each year a benefit performance for theatre equipment is put on by the board. Since the beginning of the war, board members not only handle the box office for the plays, but also act as a combination of hostesses and air raid wardens at each performance. The group has been in existence for two years, although the theatre was conducted previous to that time as a semi-public agency.

The theatre is housed in a large carriage house on the property recently converted into the Burlingame Community Center. The garage section of the carriage house is now the workshop; the former laundry room, a costume room; and the upstairs loft, a miniature playhouse with an auditorium seating 82 and a stage 24 feet wide and 20 feet deep. The Miniature Playhouse is used for all rehearsals and workshop activities, and for the productions having small to medium sized casts. Plays with casts of more than 35 children are produced at various elementary schools in the city. If a play is produced in a school auditorium, only two performances are given, whereas at the Miniature Playhouse there are at least four performances.

The children participating range in age from 5 to 14, with the average age of 9 to 12. All who come to the tryout get a part in the play if the story will allow for extra fairies, villagers, gnomes, etc. The children not only take part in the plays, but also assist in the construction of scenery and costumes. Each actor is responsible for a share of the technical side of the production, and many children never appear on the stage itself but are part of the stage crew. Costumes are used time and again, and are frequently remodelled by the girls in the cast and in the costume department. Since the theatre was established, between 600 and 700 children have taken part in its different activities.

War conditions have caused many additions to this recreation program and, at the same time, have caused increased activity and increased participation. To meet this problem, a group of interested volunteer parents and board members have taken on additional duties in the way of script typing, costume making, and the chaperoning of children.

The additional wartime activities of the Children's Theatre are along the lines of community service to civilian defense groups, including appropriately costumed children carrying banners about war bond sales and salvage drives, producing defense playlets for adult groups, and making posters and banners for the civilian defense activities. In addition, a Junior Players Club has been formed for Junior High School boys and girls to assist with production for social recreation.

Six to eight plays, including one or two puppet plays and defense plays, are given during the school year, one every other week during the summer vacation, in addition to other special activities.

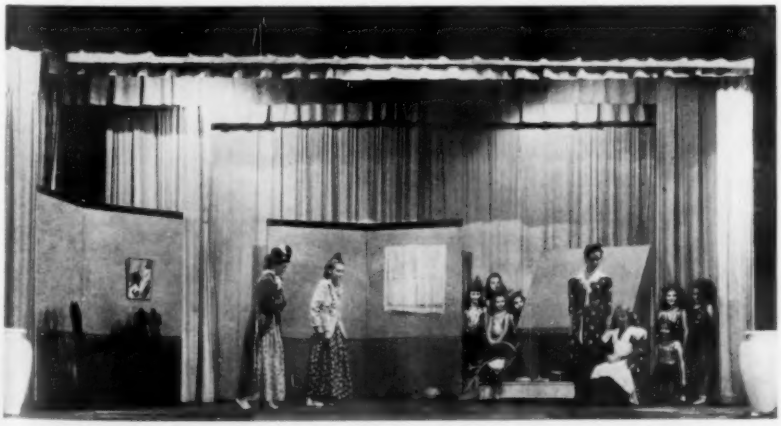
CAROLINE FISHER,
Director.

The Palo Alto Children's Theatre

THE Palo Alto Children's Theatre, maintained by city funds and administered under the city recreation department, is a pioneer in city ownership of children's theatres. This organization, having functioned for several years in the splendidly equipped city civic theatre, has, since 1937, had its own building in the community center donated by Mrs. Louis Stern of Palo Alto. It contains an intimate little auditorium seating 208, a roomy stage, an ample rehearsal hall, workshop, airy dressing rooms, costume and sewing rooms, offices, foyer, and rest rooms.

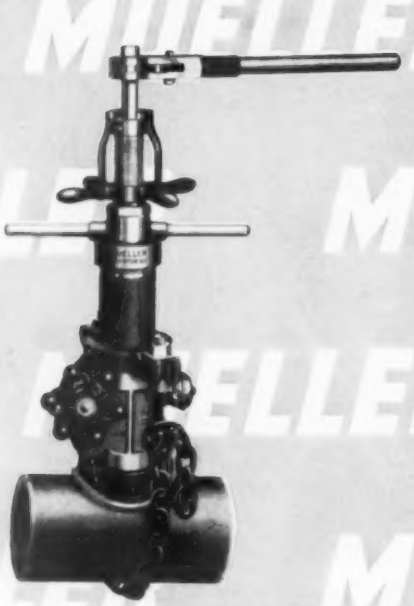
Eight or nine hundred of the city's 3,000 school children actively participate in the twelve months' theatre program, which provides an opportunity to test present-day educational theories and to further the interest in theatre art, photography, costume, design, and stage lighting. A membership fee of 50 cents a year for each child participating in activities gives the children a sense of ownership in their theatre and a feeling of close affiliation with its development. The fee entitles the child to participate in all of the theatre's plays and recreational activities and admits him free to all workshop productions during the year. It also covers costume costs.

The activities are not designed for the talented child but for those youngsters who want to participate in any phase of the theatre's activity. Some come just to see tryouts and state to their friends before arrival that they wouldn't be "caught dead actin';" they remain to hammer, paint, carry cable, set scenery, and in the case of the girls, to sew, paint, and apply cold cream.



The Children's Play—"Cinderella"—Burlingame Children's Theatre

GET THE BEST RESULTS



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Long before the appointed magic hour arrived dozens of dolls and their small mothers and older grandmothers gathered before the Children's Theatre to await the opening of the doors for a Marionette Show with real live Marionettes.

The $6,000 annual budget for the theatre provides for leadership, operating costs, and general upkeep. Volunteer work in script typing, costume making, and chaperoning of children is done by parents and board members. Women traffic violators, when they do not pay their fines, have the privilege of sewing two hours for every dollar imposed by the court. This unique plan of cooperation between the police and Recreation Departments often enlists the violator as a theatre volunteer after the traffic-violation penalty is finished.

Every City Can Do It

Every city can assist in crime prevention by fostering a children's theatre which provides leisure-time activity for idle hands and minds and relieves taut family budgets by providing free recreation. A small amount of tax money will bring rich returns in the child's culture pattern and social health.

M. C. Theltgen,
Business Manager and Acting Director.

Dayton Wants Home Rule in Taxation

"THERE is nothing wrong with Dayton that money will not cure," says F. O. Eichelberger, its City Manager, in this Ohio city's Annual Report for 1942. Public improvements such as bridges, rivers, boulevards, highways, playgrounds, etc., will merely remain theoretical lists, he points out, unless local officials are entrusted with an easier method of raising funds to finance them than now exists under state authority. The local authorities have little control of their fiscal affairs, and the restrictions placed upon them by constitutional and statutory requirements work quite a hardship. They must either go to the people for the authority to provide the wherewithal for community betterments, through tax levies or bond issues, or they must ask the voters to lift the state restrictions by writing their own tax limitations into their municipal charter. It is recognized that the Federal Government would be generous in its assistance to local communities if such communities were prepared to do their part in the post-war reconstruction program. But the question asked is "How can Dayton do its part?"

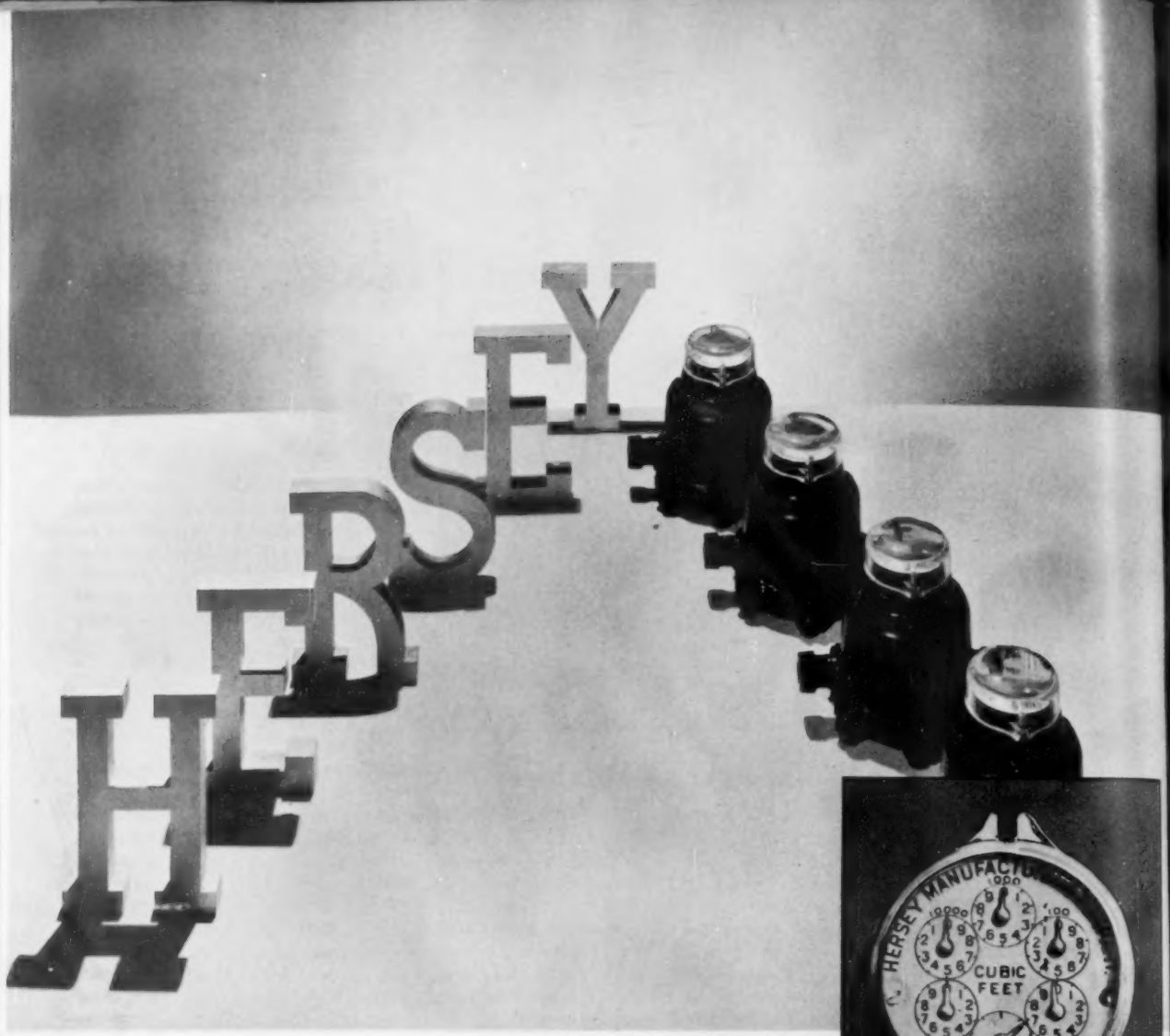
And the specific answer supplied is: "What Dayton needs most is home rule in taxation"—adopting its own tax limitations through charter amendments. The amendments to the City Charter which are believed essential would provide an increase in the tax limitation for general operating purposes from 3.83 mills to 5 mills, with a provision that additional operating millage may be authorized by a majority vote of the people. The bond issuing limitations would remain as they are now fixed by statute, i.e., 1 per cent of the assessed valuation without a vote of the people, and an overall bonded debt limit of 5 per cent of the assessed valuation. It is believed, however, that the bonds issued outside the 1 per cent limitation, should be authorized by a simple majority vote rather than a 65 per cent vote as now required by state statutes. The debt services on all bonds, unvoted and voted, would be levied outside the 5 mill limitation referred to above, which 5 mills would be reserved, if needed, for operating purposes.

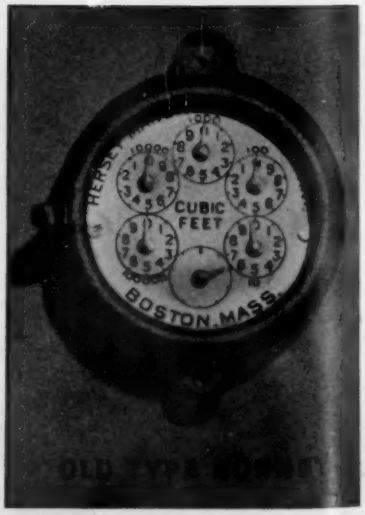
City Manager Eichelberger feels strongly that if the citizens of Dayton can be persuaded to adopt this plan they will be helping to lay the groundwork for needed physical improvements as well as for the orderly transition from war to peace.

Techniques for Measuring City Population Growth

WAR-STIMULATED movement of population has outmoded 1940 census figures, and cities are finding it necessary to seek new techniques for estimating growth. Chester Cooper of the Division of Research and Statistics, National Housing Agency, in an article in the *National Municipal Review* for May, discusses three possible methods of population determination: (1) the one based on registration for rationing; (2) techniques involving the use of a city directory, school population, and births; and (3) the post office census. Summarizing his recommendations, the author says:

> Of the three, the use of data obtainable from the registration for rationing purposes is the easiest and least expensive in time and money. Because the number of persons who failed to register is not known, the results obtained from the use of this method are the least accurate.
>
> The method based on the use of the city directory, school population, and resident births combined should give a closer approximation to the actual population than does rationing. Its practical use is limited because of the complexity inherent in the procedure and because the basic information may not be available in every community.
>
> The final technique, the post office census, gives the most complete picture of population growth.
>
> Although some boom communities are undertaking, on their own initiative, the task of determining the extent to which population has increased since 1940, too many areas are entirely unaware of their recent growth. Until the federal and state governments recognize the need for information on this subject and encourage and assist local governments to develop and administer some form of population measurement, countless communities throughout the country will be faced with problems without the basic information necessary to solve them.





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Community Food Conservation

How Municipalities and Civic Groups Can Help

By M. L. Wilson
Director of Extension Work
U. S. Department of Agriculture

VICTORY Gardens and small garden-type farms around many cities will yield considerable seasonal surpluses of fruits and vegetables. Not an ounce of these should be allowed to go to waste. Such surplus fruits and vegetables as cannot be eaten fresh, sold through commercial channels, or canned, dried, or otherwise preserved for use in the grower's own family, should be contributed to a community food reserve.

Many cities have community food-conservation plans under way. Often the projects are private ones, conducted by charitable groups or garden enthusiasts who know that their gardens will yield more than they can use. Whether the project is private, quasi-public, or officially sponsored, every city administration has a direct interest in its proper planning and in the rules made for its orderly supervision of processing, storing, and distribution.

Three Principal Objectives

Community food conservation projects have three principal objectives: (1) To prevent spoilage and wastage; (2) to make it possible for home-makers to can, dry, or otherwise preserve food more easily, economically, and safely than they could in the home; (3) to build up food supplies for school lunches, charitable institutions, and emergencies.

Most citizens who have a surplus of garden produce do not want to see it wasted. Many of them will be glad to harvest and deliver it to a central place if a bona fide community conservation program is underway. In some instances help may be needed for picking or harvesting. Then, squads of pickers or other harvest help should be made available in time to prevent spoilage in the fields. Boy Scout troops, police boys' clubs, or similar youth groups are usually eager to rise to this kind of emergency. Naturally, their work should be properly supervised. Every city school system will have some members of its teaching force who will be glad to stand ready for this kind of supervision if they know it is in the interest of the wartime food program. Where local U. S. Crop Corps mobilization groups have been organized, lists of other helpers can be quickly obtained.

The Department of Agriculture's Extension Service has for many years been instrumental in organizing community canning projects in rural areas. All state extension home demonstration agents understand large-quantity canning and will be available for organizing projects and training leaders in the correct use of available equipment. In some states the extension services already have state-wide food-conservation projects under way. In Arkansas, for instance, the chambers of commerce and other local civic organizations are sponsoring the setting up of canning equipment in urban centers for use of city families. Under the cooperative leadership of agencies such as the Extension Service, the Food Distribution Administration, the Office of Civilian Defense, this idea is now being pushed nationally because the food situation is serious. State and local nutrition committees, often serving as sub-committees of the state and local councils of defense, are being urged by the Food Distribution Administration to establish community food-conservation centers wherever there is any danger of quantities of food going to waste.

Tackling the Priorities Problem

One of the principal handicaps so far has been the shortage of materials and equipment. Government agencies in charge of such matters appreciate the situation and are sympathetic toward doing something about it. The War Production Board has, for instance, released materials for the immediate manufacture of a limited number of pressure cookers of the 33 and 106 quart sizes. But the principal problem will continue to be the equipping of community centers.

Conservation projects need not be confined to canning. Community dryers are rather practical. However, the problem of obtaining priority ratings for critical materials needed in the manufacture of thermostats, heating units, and electric fans may be difficult to overcome. There is no reason, however, why the average community cannot rig-up its own drying apparatus, using local fans and thermostats. If thermostats are not available, thermometers will do, but will require careful watching of temperatures. All extension services have plans for constructing such dryers. Sun drying, as recommended by the state agricultural colleges, can also be used in areas of much sunshine as an important means of conserving fruit and a limited number of vegetables.

The Food Distribution Administration has been given authority to allocate canning equipment formerly used by the WPA, where such equipment is not being effectively utilized. Allocation of available equipment is being made to communities on the basis of need. Much more equipment is needed, however; and city administrations and civic agencies, cooperating closely with communities, can contribute a real service by organizing drives to obtain locally available, and possibly unused, canning and cooking equipment that will be practical for the community project.

City Manager Appointments

Roy J. Heyne, a local lumber dealer, has been appointed city manager of Phoenix, Arizona, effective May 1. He succeeds Richard H. Smith, who recently resigned to become manager of Ventura, California.

G. E. Horne, former city clerk, has been appointed city manager of Tecumseh, Oklahoma. He succeeds Clyde G. Pitman, who has resigned to become district judge.

Arthur E. J. Johnson, clerk and city engineer and one-time manager of Red Oak, Iowa, was appointed city manager of Clarinda, Iowa, on May 3. He succeeds Warren D. Toyne, who has served since 1927.

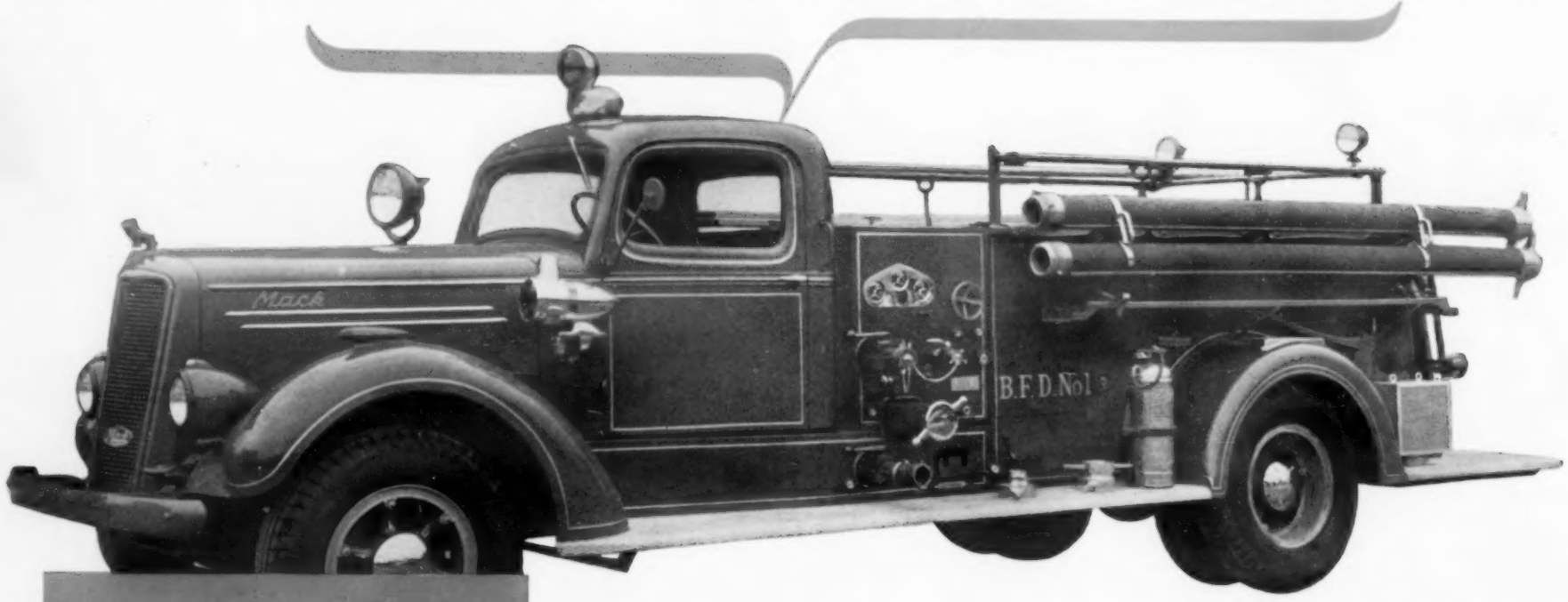
E. H. Shute, former member of the state auditing department at Farmington, has been appointed town manager of Patten, Maine, to succeed Archer Scribner. Mr. Scribner resigned to become a state game warden.

Clarence E. Ridley,
Executive Director, International City Managers' Association.

Priorities for Municipalities

An excellent clarification of recent developments in the priorities situation as affecting municipalities appears in the May 12 issue of the AMA *Washington News Letter*. This bulletin is available on application to the American Municipal Association at 1313 East 60th Street, Chicago, or at 521 Transportation Building, Washington, D. C.

GOOD EXAMPLE OF...A GOOD EXAMPLE



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IN BRIDGEPORT, Connecticut, one of America's busiest war production centers, 19 Macks form an important part of the city's fire brigade. Latest to be delivered in this Type 55-600 gallon triple combination pumper with a DeLuxe Cab and featuring a 2½ inch gated suction inlet for special use on booster operation.

Because fire protection is so essential on the home front . . . we have been authorized to continue manufacturing certain types of fire apparatus while concentrating all other productive effort on equipment for our armed forces.

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MACK MANUFACTURING CORPORATION, FIRE ENGINE DIVISION, LONG ISLAND CITY, N. Y.

Traffic Control and Facilitation

Conducted by Traffic Control & Facilitation Committee, Institute of Traffic Engineers, 60 John St., New York
Merwyn Kraft, Chairman, Karl A. Bevins, Jay A. Czizek, A. Wallace Gove, Ross C. Harger, Walter H. Klapproth, Theodore M. Matson, William R. McConchie, Henry W. Osborne, Earl J. Reeder, William J. Weller

Community Transportation Is a Collective Responsibility

By Charles Gordon
Managing Director
American Transit Association

THE development and maintenance of an efficient and convenient local transportation system has always been a matter of major importance to the very existence of an urban community. This continued to be true even after automobile ownership and use became widespread, and will be equally true when the post-war automobiles appear. But prior to the outbreak of war *great difficulty was experienced in enlisting the interest of various groups without whose cooperation little could be done in the solution of local transportation problems.*

War has wrought great changes. We *were* blessed with an abundance of all types of transportation; *now* a transportation shortage threatens to become one of our most acute problems.

The shortage comes from increased employment, stoppage of automobile manufacture, loss of our natural rubber supply, difficulties in the transportation of fuel, particularly in the eastern area, and the current 20 per cent cut in bus mileage.

Obstacles to the handling of the huge new traffic loads are inability to obtain new equipment, rapidly developing shortages in manpower, the need for conserving rubber tires and fuel used in buses, and shortages in repair parts.

Vital Service for All Citizens

The daily transportation of workers between their homes and places of employment has already become a major wartime *community* problem. How can the various groups in the community participate in its solution?

The transit industry is now carrying traffic at the rate of 22 billion passengers per year. These passengers are workers, school children, shoppers, business and pleasure travelers. About half travel during rush hours and may be assumed to be predominantly worker travel. Of the other 50 per cent, at least 1/3 may be assumed to be worker travel, which together with the rush hour travel makes a total of 11 billion worker trips per year carried on public transit vehicles. Of the total of worker trips per year about the same number travel by automobiles.

The over-all picture, like all averages, gives no indication of the difficulty that is actually experienced in many individual war production areas. In some small and medium-sized cities, the current local transit load is six to seven times as great as in normal periods. In other communities the traffic has more than doubled in comparison with the preceding year.

Replace Equipment Casualties

Now as to a program to keep community transportation functioning under wartime conditions:

First, we must couple effectively the use of public transit facilities and the private automobile. Either type of transportation alone is inadequate. Together, and controlled by policies designed to obtain maximum transportation capacity with minimum mileage, we may surmount the difficulties ahead —though at best the margin will be small and *we shall be forced to abandon all peacetime standards of convenience and comfort.*

Because of shortages of material, construction of new transit vehicles has lagged far behind the demand, for a period antidating Pearl Harbor by many months. Now *only a trickle of equipment is being produced.* For the year 1943, total construction authorized for the United States is 230 street cars, 75 trolley coaches and 3,000 integral buses together with about 4,000 school bus type bodies mounted on truck chassis. Furthermore, only a part of this very small authorization can possibly be completed much before the end of the year.

There is some irreducible minimum beyond which it is not safe to go in curtailing the construction of new public transit vehicles. I believe that we are now, and have been for some time, below this safe minimum. It is obvious that we cannot continue indefinitely to stretch existing facilities thinner and thinner, without providing at least for absolutely necessary replacements. Unless this situation is fully recognized, the production of many war plants will suffer due to immobilizing their workers.

I am advocating only a very small program of new construction, such as has been recommended by ODT and other government agencies. My point is that, even in the face of stringent material limitations, there must be some continued construction if we are to avoid a catastrophe. The assumption that the volume of this new construction can be kept small is based on the premise that the full cooperation of all groups in our communities can be enlisted toward the adoption of the policies and conservation measures for stretching our available facilities to meet the vastly increased requirements.

At the very head of all the measures is the staggering of industrial, business, and school hours, so as to spread over a longer period the customary morning and afternoon peaks of local travel.

Coupled with the staggering of hours, the ODT program requires the most intensive possible use of streetcar and rapid-transit lines and a corresponding reduction in the operation of rubber-tired mileage on paralleling or duplicating routes; reduction in the number of stops; reduction in the standard of service in off-peak hours; turning back a portion of the vehicles on long lines short of the outlying terminals; and prohibition of extensions

Street before abandoned rails were turned into war scrap.

Same street after tracks were removed and area repaved with concrete.

Concrete for Salvaging Abandoned Car Track Areas

ALL over the country abandoned street car rails are being salvaged for war needs.

An important by-product of the salvaging of steel rails is the increased street traffic capacity gained by restoring the track area to usefulness.

Removing steel rails and paving with concrete not only gives additional capacity for buses or trackless trolleys but improves the appearance of the street and gives increased safety. And returns from the sale of the rails will pay a part of the cost of repaving.

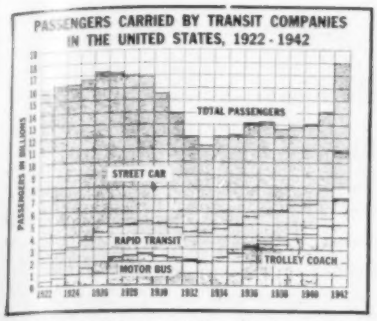
Eight-page illustrated information sheet, "Concrete Pavement for Abandoned Car Track Areas," gives recommended designs to fit varying weights and volumes of traffic. Will be mailed on request to engineers and officials of any community planning to aid the war effort with a track salvaging project.

PORTLAND CEMENT ASSOCIATION

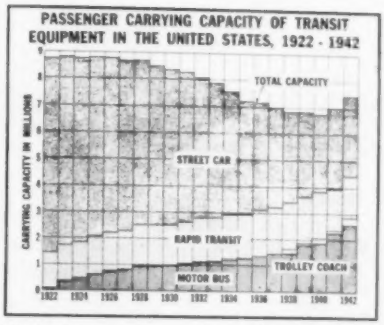
Dept. A6-4, 33 W. Grand Ave., Chicago, Ill.

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

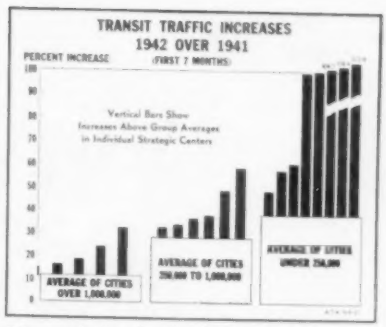
BUY MORE WAR SAVINGS BONDS



The line at the top of the chart represents the number of passengers carried by all local transit vehicles. The former all-time peak of traffic occurred in 1927 at a level of 17¼ billion passengers, compared with 18 billion passengers in 1942, and an estimated 22 billion passengers in 1943—the equivalent of two rides per day for 300 days per year for 37 million people.



While the number of transit passengers carried in 1943 will exceed the previous all-time peak by almost 5 billion passengers, there has been no comparable increase in the number of available vehicles. Furthermore, due to the fact that buses of smaller capacity have replaced many street cars, the total carrying capacity of all transit vehicles owned today is substantially lower than the capacity of the vehicles owned in 1927.


TRANSIT TRAFFIC INCREASES 1942 OVER 1941
PERCENT INCREASE
(FIRST 7 MONTHS)
Vertical Bars Show Increases Above Group Averages in Individual Strategic Centers
AVERAGE OF CITIES OVER 1,000,000
AVERAGE OF CITIES 250,000 TO 1,000,000
AVERAGE OF CITIES UNDER 250,000

The variation in the impact of war conditions upon local transport, as between groups of cities of different size and between individual cities within each group, is strikingly illustrated in this chart. The black bars above these grey areas indicate the extent to which the traffic in certain individual communities exceeded that of their group averages.

to new residential areas. To carry out these policies, specific orders have been issued in a number of communities requiring definite changes in the routing and operation of transportation systems.

Public Must Cooperate

Within this program two major measures stand out above all others: (1) the staggering of hours to permit vastly more efficient use of our public transportation systems, and (2) group riding in automobiles so as to get maximum utility from available private vehicles.

Both these measures are dependent for their effectiveness upon a very large degree of public cooperation. Both require changes in customs and habits of a great many individuals and groups to make them really effective. In some instances, considerable inconvenience and even real hardship are involved. But we shall all benefit as the need is fully understood. And it is primarily for that reason that we may properly say that community transportation today is a collective responsibility.

There are various channels through which the several groups concerned can participate. The ODT has wisely encouraged and sought from the beginning, the cooperation of local agencies. At the head of these stand the local War Transportation Committees named at the request of Joseph B. Eastman. With the establishment of a number of regional offices by the Local Transport Division of ODT, the prestige and effectiveness of these committees has been augmented by tying them in directly with the regional offices. It is through these war transportation committees that community effort to stagger hours and to encourage group riding has been pushed forward.

The cooperation of employers as well as employees is essential to the adoption of both major community measures. The recently developed plan of organizing plant committees to promote group riding is a definite step forward.

Use of the community's police power in modifying traffic control to meet wartime conditions — including the control of parking to insure free flow of vehicles handling workers—is an essential factor of community participation in helping itself to overcome a collective problem.

The support of merchants, women's organizations, other civic groups, and school authorities is needed for the adoption of both staggered hours and group riding, and in addition, to reduce pleasure travel to a minimum and to keep as much indispensable travel as possible out of the peak hours. This construction result is worth continuing.

More Going and Less Stopping

By Earl J. Reeder
Chief Traffic Engineer
National Safety Council
Chicago, Illinois

THE necessity for a decreasing number of vehicles to carry an increasing number of passengers raises the obligation to reduce delays and accidents by readjustment of traffic-control facilities. This article will tell how new problems have been attacked in several widely scattered areas where the National Safety Council's traffic engineers have worked with local war transportation administrators and public officials during the last eight months. Below are typical places where the work has been done:

Salt Lake City, Utah
Ogden, Utah
Provo, Utah
Grand Island, Neb.
Cedar Rapids, Iowa
Decatur, Ill.
Peoria, Ill.
Beloit, Wis.
Quad City Area around Rock Island Arsenal
Little Rock, Ark.
Texarkana, Ark.-Texas
Fort Worth, Texas
Orange, Texas
San Antonio, Texas
Evansville, Ind.
Norfolk, Va.
Pawtucket, R. I.

In one city, a signal was still being operated where peak traffic on the minor street totaled only seven vehicles during an hour.

In a rural area, a two-lane road on a long grade with several curves required passenger cars filled with war workers to remain behind slow-moving trucks. The problem was to provide space for the slow-moving trucks to operate independently of the private cars. An extra lane was added for trucks going up the grade and it reduced accidents from impatient drivers pulling across the center line to pass where sight distances were far too short.

On a three-lane city street leading to a large air field, one lane was used for traffic in each direction, regardless of volume, and the center lane was reserved for passing in both directions. The loads in the opposite directions were never balanced at peak hours. Why then hold the center lane for passing only? Why not reserve it for

In the Fight for *Safety*

On far-flung battle fronts, Uncle Sam's hard-riding motorcycle soldiers are helping to make the world safe from fear, terror and destruction. On country-wide home fronts, America's traffic squads are battling carelessness and negligence that all too often bring injuries and death. And on all these front lines of action, Harley-Davidson Motorcycles are demonstrating their stamina and dependability — delivering exceptional performance under most trying conditions. Built-in quality and rugged construction—proved worthy in time of war — herald still greater stamina and performance for the Harley-Davidson Police Motorcycles of tomorrow! Harley-Davidson Motor Co., Milwaukee.

HARLEY-DAVIDSON MOTORCYCLES

ON AMERICA'S FRONT LINES OF ACTION

extra traffic in the heavy direction at each peak? This plan was recommended, with appropriate signs and pavement markings to inform the drivers of the changing restrictions.

On this same street, which parallels a railroad track, is an important five-point intersection where a sizable part of the traffic away from the field turns right across the railroad, another substantial part continues parallel to the track, and a smaller part turns left on another crosstown street. Traffic waiting for trains to clear at peak hours to permit right turns, was often blocked for considerable distances. A deceleration lane was recommended to provide storage space for this right-turning traffic, thus leaving the normal street width for traffic going straight through and turning left. Buses stopping on the near side of this intersection to discharge passengers from the air field, often blocked right turns. Far-side stops were recommended at this point for buses from this direction. Traffic headed toward the field presented other problems requiring special attention at this intersection. The three important streets that converged into one often resulted in traffic being stalled on the railroad as it waited for the opportunity to turn left into the other major flows. An acceleration lane was recommended, to provide three effective outbound lanes that would accommodate the three separate movements without obstruction, at the peak, and provide space for them to converge into two lanes farther on.

On an important narrow street, private passenger cars and trucks were allowed to stop "momentarily" in bus zones, forcing buses to receive and discharge passengers in the middle of the street, where they stopped all traffic.

Application of the warrants in the War Emergency Edition of the Manual on Uniform Traffic Control Devices to 13 automatic signals in one city showed that six were not needed and that the other seven should all have their operation adjusted to present traffic. At most of the locations where the signals were not necessary, stop signs were needed. The recommended revision of the signal operation included reduction of cycle lengths, changing of the divisions of the cyle, and interconnection for limited progressive operation. Flexible progressive control was not possible with the existing equipment. Some obsolete equipment can be replaced by the newer signal heads, or controllers made available by discontinuance at other locations.

In another city 10 out of 19 signals were not required. Six others needed retiming. Three others were needed during peak hours and at other special times, with considerable revision of the timing. Incorrect timing of a traffic signal at a Y intersection of two important city streets was allowing 13 seconds of green for one of the converging streets and 33 seconds for the other—although the former carried twice as much traffic as the latter. During the rush hours in the afternoon, traffic would back up for a half mile or more on the street with the 13 seconds of green. The total cycle was retained at 50 seconds, but this was redistributed to give 30 seconds to the major street and 17 seconds to the minor. The congestion promptly ceased.

Wrong Stop Signs

In one city, several stop signs were used to protect pupils; but four policemen spent nearly full time in placing and removing most of these signs morning, noon, and afternoon. Some of the signs were stopping important traffic most of the day. For instance, one sign stopped 676 vehicles in one hour. Of these, 174 stopped in one 15-minute period when no students were crossing. Furthermore, of the 148 children who crossed from this school during the hour of observations, 95 did not use the painted crosswalks, but jay-walked, crossing the street diagonally back of the stop sign. In place of the stop signs school safety patrols were recommended for application throughout the city.

In another city, the stop signs at one intersection stopped the major flow of traffic, including a bus line. The solution was to make the signs stop the minor traffic. Many sub-standard stop signs were in use, including "mushroom" buttons in the center of the street. These were used in place of standard signs at the curb, rather than as supplementary to them. The installation of standard signs for better visibility was recommended.

Wrong Street Lighting

Inadequate and poorly maintained street lighting was a serious handicap to traffic safety, particularly pedestrian safety, in one city. While it was recognized that general improvement of the lighting system was not possible because of lack of new equipment, there was ample opportunity for better maintenance to obtain more light from the existing equipment. More frequent cleaning of the luminaires at regular intervals, and a better program of replacement of lamps, were recommended. The importance of doing this to safeguard war workers on night shifts was emphasized—particularly to protect pedestrians.

In two cities, the problem of keeping bus stops clear of other vehicles was acute, particularly at rush hours. Stopping—to load or unload passengers, or to run into a store to pick up packages—was thought by the drivers to do no harm, for there still seemed to be space for a bus. Such drivers often overlooked the fact that it takes considerably more space than the length of a bus to enable it to pull up to the curb properly in parking, and to leave enough space for getting into traffic again. They overlooked the possibility of two or more buses arriving on close headway and requiring the entire zone to get to the curb simultaneously.

A four lane, divided highway, providing access to a large war plant, was "bottlenecked" by a traffic circle between the plant and the city a few miles away. At peak hours the two shoulders of the four lane highway were used by some of the vehicles, although the surface was poor and the practice dangerous. Surfacing these extra lanes on the shoulders, and providing properly spaced turnouts for vehicles to stop in the event of tire trouble, although necessary for safety, would put an additional load on the circle. Widening the roadway of the circle to 40-feet was recommended.

Another access road problem at an ordnance plant near a city, was the junction of two roads into a two-lane section of the road leading directly to the plant. One of the roads ended beneath a viaduct, on which the other was carried across adjacent railroad yards, and the movement of traffic between the two was over a two-lane connection parallel to the viaduct. This meant that traffic from the intersecting road bound for the plant must cross the traffic approaching the viaduct at an acute angle—a dangerous condition. To correct it, extension of the intersecting road beyond the viaduct, and construction of a second connecting road were recommended to permit vehicles bound for the plant to pass through under the viaduct and enter the access road without conflict. Furthermore, the construction of an extra lane on each side of the access road for a distance of about ¾ mile, and connecting with a four-lane road at the plant, was recommended.

Quite a different problem existed at the junction of an access road and a main highway on the crest of a grade. Being cut through an embankment, the view of cars approaching the main highway on this access road was seriously obstructed. The banks were cut back to provide adequate sight distance, and traffic from all directions moved much more freely and safely.

Winter was an approaching problem in one area with many grades and

THIS STORM SEWER is fighting on two fronts

This and other storm sewers are doing an important job at home without the use of critical materials — thanks to ARMCO Emergency Wood Pipe. The metal it releases may even now be helping to save lives and shorten the war on a distant fighting front.

Yes, essential wartime drainage can be taken care of economically, efficiently and *patriotically*. The new design of ARMCO Emergency Pipe requires no steel sheets and bands, wire mesh, metal reinforcing or other critical material. Skilled labor is not needed. The pipe is easy to handle and install. Also important now, ARMCO Pipe is light in weight and nestable, which often means up to 80 per cent savings in transportation.

Remember that ARMCO Corrugated Metal Pipe is only on temporary "leave of absence." It will be back after the war with its flexible strength, long lengths, tight joints and low installation costs. Meanwhile, steel must not be used in any drainage structure unless engineering integrity demands it. For most of those wartime "must" jobs you'll find a highly practicable substitute in ARMCO Emergency Wood Pipe. Write us today for complete information. Address: ARMCO Drainage Products Association, 75 Curtis Street, Middletown, Ohio, U. S. A.

ARMCO ARMCO **EMERGENCY PIPE**

curves on rural highways leading to important war-work centers. In the preceding winter, cars had become stalled on these roads when ice suddenly formed. Now abrasives were stored at the critical points and maintenance men were assigned to rub out slipperiness.

Nearly all of these problems resulted from the changes in the normal traffic pattern brought about since Pearl Harbor. In many cases the difficulties had not been serious before, because the roads and streets on which they developed had not been daily loaded to capacity. Although few of the examples given here deal with traffic signals and signs, all deal with the basic problem of freeing traffic movement by eliminating constrictions due to improperly operated devices, inappropriate regulations, poor supervision, or actual physical obstructions or limitations.

St. Joe's Trolley Coaches

By F. Norman Hill
Transportation Engineer
St. Joseph Railway, Light, Heat & Power Co.

JULY 31, 1943, completes eleven full years of trolley-coach operation by the St. Joseph Railway, Light, Heat & Power Co., in St. Joseph, Mo. This is one of the earliest successful trolley-coach operations in the United States.

During the last four years especially, the trolley coach has made a great deal of progress in both design and general acceptance. In 1930 it was an infant—so why did we turn to trolley-coach operation then? There were several good reasons. We were facing steadily declining revenues on several of our major street-car lines. We had a considerable investment in a power plant and in street-car overhead construction. Several of these major lines operated over sharp grades and steep hills, and our experience with motor coaches of that day did not indicate such vehicles could handle the job.

After careful studies of all three types of vehicles, we decided the trolley coach was potentially our salvation. We believed it would revive public interest in riding and so be the means of recuperating our revenues on these main arteries of our system. Economically, we believed it would outperform the motor coach and the street car on these well established and densely settled routes.

After deciding this on paper, the final decision between motor and trolley coaches was made on the results obtained from a series of actual operating tests with a 29-passenger trolley coach and a 27-passenger motor coach—the street cars having been eliminated in the meantime from further consideration.

The line chosen for these tests was 4.5 miles in round trip length and extended over a very rolling topography. For ten days, these two vehicles were operated in regular service on the line, along with the street cars. Detailed records were kept of all costs incurred during this time. Of course, this test period was too short to obtain conclusive cost data other than comparative power costs. The most important reasons were to determine the acceptability of the various types of equipment by the public and the ease with which the grades could be negotiated.

The most conclusive evidence as to the comparative performance of the two types of vehicles was obtained by running a series of tests at night, after regular service on the line had stopped, to determine the schedule that would be possible for each unit if the speeds were not limited by street cars. In running the tests, both units were loaded with sand bags to approximate actual load conditions. Stops were located from traffic check data. For rush-hour service, exclusive of the downtown loop, tests indicated that the time required for the motor coach to make a round trip was 19 minutes, for the trolley coach 15½ minutes. The motor coach required 15½ minutes for non-rush service, and the trolley coach 13½ minutes.

Thus, there was a difference of 15 per cent in the running time in favor of the trolley coach, due to quicker acceleration. This meant, of course, that one less scheduled vehicle was necessary on a trolley-coach schedule than on a motor-coach schedule. Operation on hills also gave some rather interesting results. The two vehicles were loaded and started from a stop position at the bottom of a 9 per cent grade 600 feet long. The trolley coach negotiated the hill in 25 seconds, attaining a speed of 17 miles per hour at the crest; whereas, the motor coach required 35 seconds, reaching a speed of only 9½ mph.

The total investment cost for trolley coaches on this specific installation figured 13 per cent higher than for motor coaches, but the difference in depreciation rates made the fixed charges lower. Analysis of operating costs showed a difference in favor of the trolley coach of 17 per cent. An analysis of maintenance costs, based solely on experience with electric street-car motors, was decidedly favorable to the trolley coach. A summary of all these factors indicated trolley coaches were decidedly cheaper to operate and to maintain than either the street cars or the motor coaches. This, the difference in the number of vehicles required to perform a given service, and the longer serviceable life of trolley coaches more than offset the first cost.

People Like Trolley Coaches

A poll of riders during the ten-day trial, showed that they liked the absence of exhaust gas odors and the quietness and speed of the trolley coach. Its flexibility in traffic pleased both riders and automobile drivers. Public approval was borne out by a 20 per cent increase in riding on this line, and 10 per cent of these new riders became regular patrons.

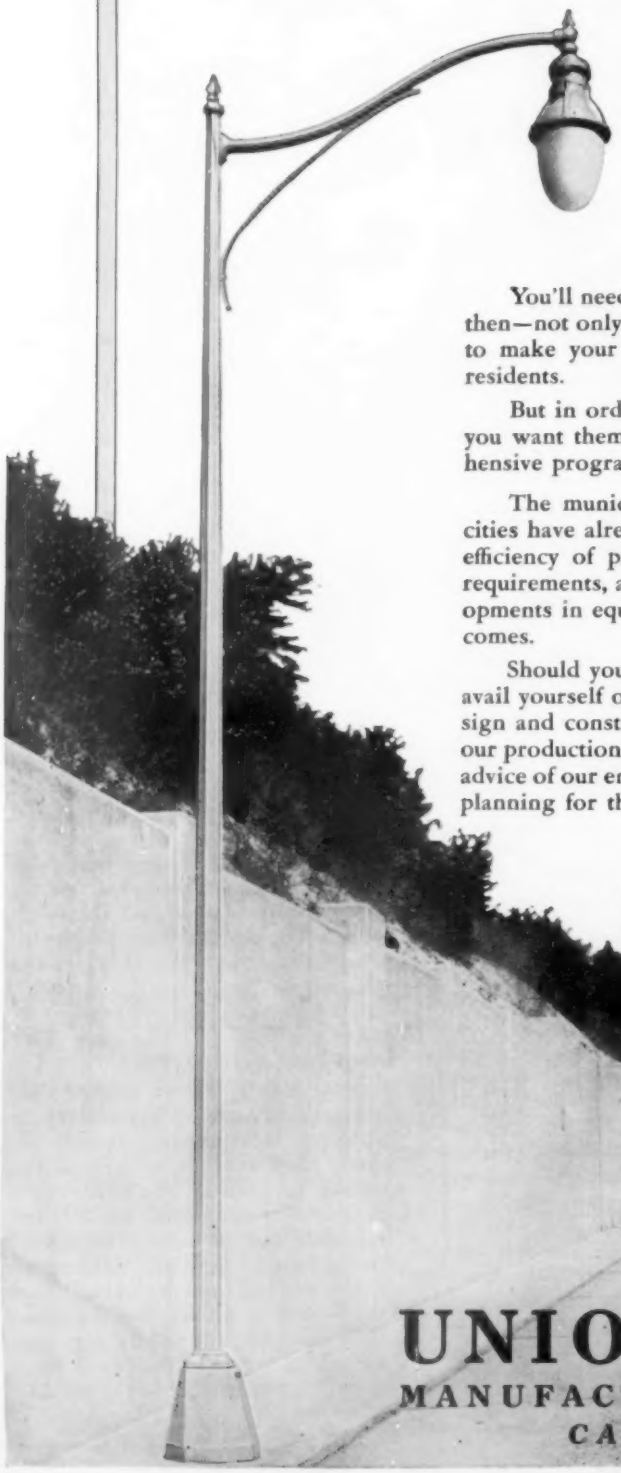
Since 1932, all major street-car lines have been converted to trolley-coach operation, and the fleet increased from 6 to 35 vehicles. Every trolley coach substitution attracted and retained a substantial amount of new business. The public appreciates the high degree of comfortable, convenient, and safe transportation thus afforded. They like the silence, exceptionally good riding qualities, generous light, heat, and cleanliness of trolley coaches. They respond to reliable service in good and bad weather, speed that reduces time in transit, and the safety of boarding and alighting at the curb. The business men, the real-estate owners, and the home owners are assured of transportation stability by the permanent nature of trolley-coach lines throughout the city.

Now look at trolley coaches with management's eyes. The ability to maintain high schedule speeds cuts down platform costs, as well as the number of vehicles. The trolley coach is flexible in heavy traffic and requires less skill and labor on the part of the operator. Schedule performance is not affected adversely by age, since power and speed do not depreciate from the standard as of the time purchased. The life of trolley coaches is determined by obsolescence rather than wear.

—Paper presented at Annual Meeting of the A.I.E.E., Seventh District, Hotel Continental, Kansas City, Mo., April 30, 1943.

Heavy Traffic Ahead!

PLAN NOW for Better Lighting



Most of our streets and highways look deserted now—what with nearly everyone in the armed forces or war plants and strict regulations on the use of gasoline. But wait until A. Hitler & Co. has been put out of business! There will be traffic and more traffic, the like of which you never saw before.

You'll need increased street and highway lighting facilities then—not only to keep traffic accidents to a minimum, but also to make your community attractive to new and prospective residents.

But in order to make sure you get these new lights when you want them, you should begin *now* to map out a comprehensive program of street and highway modernization.

The municipal authorities of many of America's leading cities have already started to do this. They're checking on the efficiency of present equipment, estimating future additional requirements, and acquainting themselves with the latest developments in equipment. *They're* going to be ready when peace comes.

Should you decide to follow their lead, you are invited to avail yourself of Union Metal's 36 years' experience in the design and construction of lighting standards. For, although all our production facilities are being devoted to the war effort, the advice of our engineers can be of invaluable assistance to you in planning for the future.

ARMY (E) NAVY

UNION METAL

THE
UNION METAL
MANUFACTURING COMPANY
CANTON, OHIO

Outdoor Lighting

Streets—Highways—Floodlighting

10% of Cities' Gas Tax Share Will Light All Danger Streets

WHILE the use of automobiles and trucks was extending year by year, the street and highway emphasis was on construction and resurfacing. By 1941, however, with registrations above 34 million, the saturation point was being approached with respect to the total number of motor vehicles. While street and highway building and maintenance remained in the billions, traffic congestion and the safety factor had taken the spotlight.

Gradually it became more definitely recognized that there were two major aspects of traffic: daytime and darktime. Plans for street improvements and superhighways began to include lighting, for it had been established that lighting would make night-time traffic-accident experience comparable to that of day. Modern lighting would do more to save lives, suffering, and property damage on a wholesale or mass scale than was possible by any other measure.

Where's the Money?

Modern traffic safety lighting on the main thoroughfares costs from $2,500 to $10,000 per mile for installation, depending on whether wiring is overhead or underground and on the ornamentation and elaborateness of the system; and $800 to $3,000 per mile for annual operation, without including investment amortization. Many cities and power companies accept this fact, and in normal times proceed to relight. Others hang back because of the cost. On streets crowded with workers' cars, war transportation, and transit coaches, the cost is overshadowed by the necessity to conserve production. These streets are lighted as the materials are made available. Postwar plans, however, now in process of formation everywhere, are bounded to a degree by the visible sources of revenue. In general, it is figured that to completely and adequately light an average city, an expenditure of about $2.00 per capita annually will be needed to cover the amortization charges and operation.

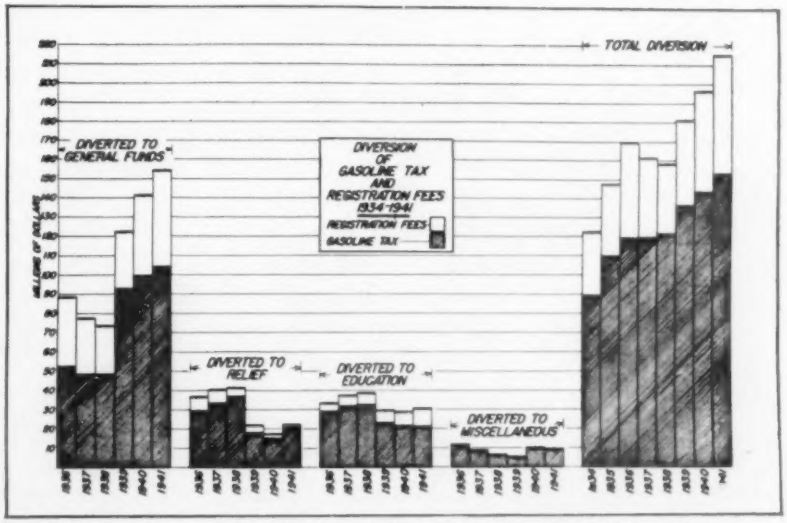
Parking Meter Revenues

Certain cities might concede that they need new street lights, but ask where the money is to come from. There are three visible sources. One is by regular appropriation. This is the soundest because it is thoughtful, conscious spending for a recognized vital public need. Where this quality of thinking and action does not exist, there are the two other sources. The second is the parking meter, already in 443 cities and practically certain to be installed in most cities beset by street congestion. Half the annual revenues from parking meters, expected to be operating three years after the war, will amount to $18,000,000. Many parking-meter cities are already using their meter revenues for traffic improvements. Street lighting should be included among these improvements. The effect on the public of a fine street-lighting system, paid for by an orderly street-parking system, should be good.

Gasoline Taxes

There have been so many successful and attempted raids on gasoline taxes and registration fees that any further suggestions should be well considered. Since 1933, states have diverted $1,750,450,000 of highway users' money to relief, education, and general funds. Fourteen states have constitutional amendments prohibiting diversion, and the number is increasing. They now include Calif., Nev., Ida., Colo., Kans., Mo., S. Dak., N. Dak., Minn., Mich., N. H., Ore., Iowa, and W. Va.

Consequently, another way to divert would hardly be attractive. The use of these funds for traffic control, however, should not be regarded as diversion, but of very real value to the drivers who pay the tolls. At the close of the war, there will have accumulated an immense backlog of street and highway construction and repair. Included with this, as an integral part of roadway improvements, should be street and highway lighting wherever unfavorable accident experience has shown the need. Street lighting is largely for the benefit of motorists; and



DIVERSION OF GASOLINE TAX AND REGISTRATION FEES—1936-1941

We turned it inside out

FOR BETTER LIGHT...EASIER MAINTENANCE

HERE'S THE DIFFERENCE

The new globe is perfectly smooth on the outside while the inside is finished with a uniform pattern of rectilinear configuration, through which light rays are diffused. The result is a globe of brilliant and sparkling appearance that transmits light with maximum efficiency.

It's the new *Smooth Surface* Reflectolux street lighting globe—an exclusive Westinghouse development.

This newly designed globe differs from all others by having the rectilinear configuration for light diffusion on the *inside* of the globe. The advantages are twofold:

1. Because its smooth exterior surface retards the collection of normal dust and dirt, rated light output is maintained over a longer period of time.

2. Because there are no grooves in which smoke and grease film can accumulate, the time required for cleaning and drying is reduced by as much as 50%. No scrub brush is necessary; a damp sponge handles the job.

The new *Smooth Surface* globe, of pressed construction, has high, uniform mechanical strength with a chip-resistant fitter edge for added structural support. The globe is available in two sizes — long and short. Both types are interchangeable with present Westinghouse Reflectolux glassware.

For more complete information on the new *Smooth Surface* globe, write Westinghouse Electric & Manufacturing Company, Edgewater Park, Cleveland, Ohio.

"Tune in the Westinghouse Program, Starring John Charles Thomas, Sundays, 2:30 P.M., E. W. T."

Westinghouse *Lighting Equipment*

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

LINE MATERIAL CO. PHOTOS

it seems fair and logical that part of the gas tax, which these motorists are paying, should come back to the cities and villages, ear-marked for street lighting, traffic control, and street repair.

This practice would encourage the installation of modern lighting on traffic and business streets. The reduction in accidents would be the outstanding gain. If removing a certain amount of the load from real estate should reduce property taxation, there would certainly be a new incentive for people to build new homes.

Total state collections of gas taxes and registration fees in 1941 amounted to $1,452,011,000. Fifteen states spent none of this money for non-highway purposes; 24 diverted less than 20 per cent; and 9 diverted more than 20 per cent (22 to 59.8 per cent). Ten per cent of the $215,000,000 diverted would pay for the operation of 20,000 miles of highway lighting. This would take care of all the danger zones and city approach stretches in this country.

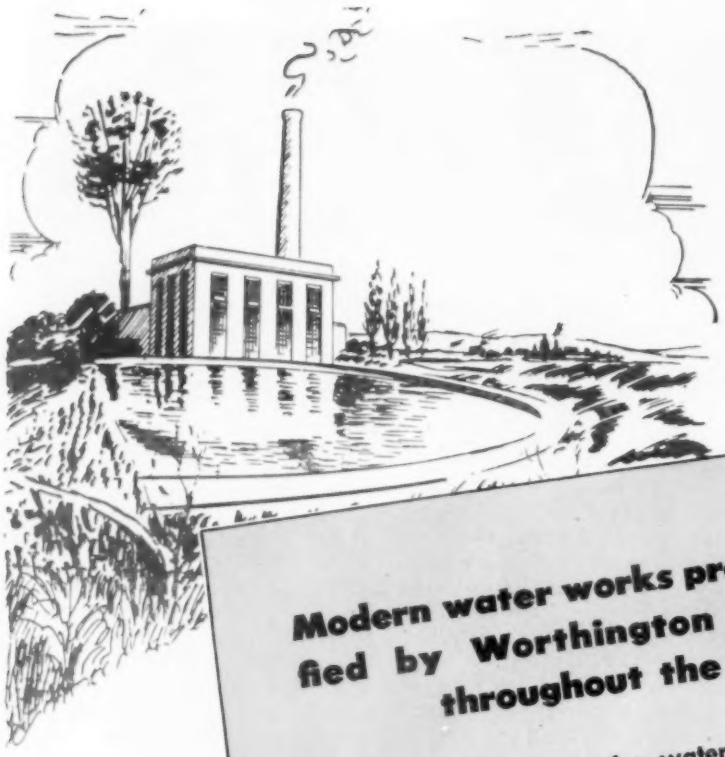
State highway funds spent locally, either though grants-in-aid or direct sharing, amounted to $347,826,000. Ten per cent of this sum spent for street lighting would light 20,000 miles of streets, or a region having five times the street mileage of New York City. Together with the money now being spent for lighting, it would modernize this lighting of the 30,000 miles of main traffic streets—on which more than one-half of all urban accidents are occurring—of every city of this nation.

This suggestion is by no means revolutionary. Detroit receives $500,000 per year from the state gasoline taxes to maintain city street lights. The municipalities of New Jersey receive state aid for lighting all of the highways passing through them, and a somewhat similar arrangement exists in California. A street lighting improvement in Illinois can be performed, along with the street improvement work, out of street gas tax funds ear-marked for the cities. The Wisconsin League of Municipalities recently recommended similar practice. The point is that the necessity of better street lighting has been conceded. While blackouts and dimouts have shelved the issue temporarily except in industrial areas, responsible officials know that the end of the war will probably usher in a higher powered, larger scale automotive era. The armor plate of visibility and traffic control had better be ready for the worst.

Cities, towns, and villages which have studied the facts of traffic accidents, know that adequate lighting can save as high as 50 per cent of the night traffic accidents and a higher percentage of the fatalities. These municipalities should be prepared to light their streets out of local money. On the other hand, traffic is really interstate, and the use of highway users' funds is logical on that score, as well as because using motorists' fees to save their lives is not a diversion, but a deadly serious piece of good judgment.

NIGHT AND DAY IN NEWTON, IOWA

Above, see how this thriving little mid-western city solved a difficult traffic problem by careful illuminating engineering. Below, this view taken in the daytime shows no more detail than the lights reveal.



Modern water works practice is typified by Worthington installations throughout the world

Worthington equipment for water supply comprises a most comprehensive line . . . . not only main units of every type and size, and for every type of drive, but all auxiliary equipment . . . . a *complete* service with *undivided responsibility*

CENTRIFUGAL PUMPS
STEAM, POWER AND ROTARY PUMPS
TURBINE WELL PUMPS
DIESEL ENGINES
GAS ENGINES
CONVERTIBLE GAS-DIESEL ENGINES
FEEDWATER HEATERS AND DEAERATORS
AIR COMPRESSORS
PORTABLE COMPRESSORS AND AIR TOOLS
REDUCING AND INCREASING GEARS
MULTI-V-BELT DRIVES
STEAM TURBO-GENERATOR UNITS
MULTI-STAGE STEAM TURBINES
SINGLE-STAGE STEAM TURBINES
COMBINED STEAM TURBINE AND REDUCING GEAR UNITS
STEAM CONDENSERS
STEAM-JET EJECTORS
WATER SOFTENERS
PRESSURE FILTERS
ROCK DRILLING EQUIPMENT
WATER METERS*

*A complete line of water meters of every type is manufactured by Worthington-Gamon Meter Company, a subsidiary of Worthington Pump and Machinery Corporation

WORTHINGTON

IC3-21

Citizens' Show of Municipal Activities

By Dana W. Rowten

Street & Highway Lighting Department
Public Service Co. of Colorado, Denver, Colo.

THE city of Denver recently displayed in City Hall exhibits of the modern equipment of the Fire and Police Departments, the Water Department, the School System, the City Engineer's office, and the Department of Parks and Improvements.

About three years ago the city had made some extensive modernization in the Denver street lighting system, and it was felt that the public would be interested in seeing just how the new lighting compared with the old and exactly what benefits had been derived through this modernization.

Accordingly, a comparison of modern and obsolete lighting equipment was set up in one of the corridors by the Public Service Co. of Colorado. The exhibit included four modern lighting units—three General Electric Form 79s and one G-E Form 81. The 81 and two of the 79s had mercury-vapor lamps, while the fourth unit had an incandescent lamp. Six obsolete units were installed for comparative purposes.

A large number of artistic placards explained the street-lighting problems which had overcome and brought before the people the engineering which makes such a project successful. One sign read:

* * *

"What is visibility?
Visibility is not light alone.
Visibility is the result of three elements:
negative element
Light on object + light on road — light glare = visibility."

(1) Light on the object to be seen
positive element

(2) Light on the road surface
positive element

* * *

Posters showed various Denver streets, before and after modern lighting was installed, and brought out that the additional illumination had been gained at a lower unit cost.

Special public interest was shown toward the street lighting evaluator. It was this device which determined how much more visibility was needed on Denver streets. It recorded the true brightness of pavement, brightness of objects on or near the roadway, and interference with vision caused by glare from the lighting system. A traffic flow map and a chart exhibit of visibility conditions, recorded by the evaluator, helped to convey the reasons for improving certain streets.

The main part of the exhibit set up by the Public Service Company of Colorado to present to Denverites the advantages of their new street lighting system. The exhibit included three modern General Electric luminaires and six obsolete units.

Some 40,000 citizens attended the exhibit and noted how and why their city officials have provided citizen safety by day and night.

69½% Traffic Deaths at Night

RHODE ISLAND'S 1942 traffic fatalities totaled 69, and 48 of them happened from 1 to 6 A.M., and 6 to 12 P.M. In this same period, only 47 per cent of the 2,114 non-fatal accidents happened, and 48 per cent of the 2,183 figure for all accidents.

Luminous Materials

LUMINESCENT materials are becoming important lighting tools in places where it is either impossible or undesirable to apply ordinary sources of light or where the ordinary source might fail, says Samuel G. Hibben, director of applied lighting for the Westinghouse Electric and Mfg. Co., Bloomfield, N. J. They enable submarine crews to navigate despite electric power failures caused by the explosion of depth bombs.

In dock areas, where wartime precautions make even a dim light undesirable, luminescent materials black-out danger spots such as the edge of piers and obstructions.

Lighting Jamestown's Streets

DURING 1942, Jamestown, N. Y., added nineteen 6,000-lumen street-lighting units to the system owned and operated by the city. The plant also furnishes street lighting for the towns of Falconer, Celoron, and Ellicott. About 65 per cent of the total street-lighting service is underground.

Street lamps burn all night from dusk to dawn except the 34 viaduct multiple mazdas, which are on 24 hours a day, and 99 single-light ornamental units burning until midnight in the business district. The system uses two indoor-type and 28 pole-type constant-current transformers and 21 series lighting transformers, totaling 632-kva capacity. Yearly rates charged by the city for 6.6-ampere street series incandescent all-night service are as follows:

Pendant Type 6.6-Ampere Street Series Incandescent Lamps on All-Night Service

		Suspended	Ornamental
A.	800 lumen	$12	$ 9
B.	2,500 lumen	21	18
C.	4,000 lumen	33	28
D.	6,000 lumen	45	39
E.	10,000 lumen	63	54
F.	10,000 lumen	—	33*

* Dusk to midnight.

New Smooth-Surface Globe

A NEW street and highway lighting globe, smooth on the outside and finished on the inside with a uniform pattern of rectilinear configurations through which light rays are diffused horizontally, is announced by the Westinghouse Lighting Division, Edgewater Park, Cleveland, Ohio. The smooth outside surface retards the collection of dust and dirt because there are no grooves to accumulate smoke and grease film. Scrub-brush cleaning is not necessary. The new globe is of pressed construction, resulting in a more uniform pattern and more uniform light distribution. The pressing process produces a smooth, rounded, "clip-proof" fitter edge which gives added strength and structural support to the globe. It is available in two types, long and short.

What the silver lining is to the clouds in the sky, the Centriline process is to the water supply pipes under the ground. A protective inner lining of thin, dense cement, applied speedily and economically the Centriline way, will greatly increase and maintain the carrying capacity of your pipelines and extend their longevity. By providing a permanently smooth, non-tuberculating, non-corrosive surface, it insures a high coefficient for life. Recondition now—then look for the silver lining in your city budget, too. Wherever your pipeline is situated, whatever its length, whether steel or cast iron—if its diameter is 30″ or more—our men can quickly Centriline it. We welcome your inquiry.

The Centriline process is a rapid and economical method of reconditioning pipe lines. It consists of first cleaning the main and then applying, by centrifugal force, a dense cement mortar lining of required thickness, mechanically troweled to a smooth finish.

CENTRILINE PROCESS

CENTRILINE CORPORATION

140 CEDAR STREET • NEW YORK, N. Y.

Restores and Protects Pipe-Line Carrying Capacity

Municipal Law Notes and Decisions

Prepared by National Institute of Municipal Law Officers, Washington, D. C.
Charles S. Rhyne, Executive Director

Bonds—Street Improvement District—Tortious Pledge of Retired Bonds by Exchange Agent

Where street improvement district issued refunding bonds in exchange for outstanding original bonds, and exchange agent pledged original bonds as collateral to his own obligation, innocent pledgee of matured bonds was not a holder in due course as against the district. *First National Bank at E. St. Louis* v. *Street Imp. Dist. No. 326 of City of Little Rock, Ark., et al.*, 48 Fed. Supp. 225 (U. S. D. C. Ark. Jan. 5, 1943).

Business Hours—Grocery Stores—Regulation of as Protecting Peace and Good Order

Ordinance prohibiting business houses from remaining open after 11 p. m. was unenforceable as against a grocery store, as it was an unreasonable restraint of a trade not in itself a nuisance and had no reasonable relation to the protection of peace and good order. *Town of McCool* v. *Blaine*, 11 So. (2d) 801 (Miss. Feb. 15, 1943).

Claims—Pollution by Sewage—Dismissal for Failure to Allege Filing of

Motion to dismiss will be granted in action to restrain operation of sewage disposal plant where complaint fails to allege that claim has been filed with clerk in compliance with village law, *Schenker et al.* v. *Village of Liberty*, 47 N. E. (2d) 47 (N. Y. Jan. 14, 1943).

Debts—Cities Required to Pay Interest—Hardship No Excuse

The New York Constitutional requirement that cities make appropriation for the payment of interest on all indebtedness existing after the effective date of the provision even if incurred prior to that date is a mandatory provision and hardship upon the cities is no defense. *Van Derzee* v. *City of Long Beach*, 39 N. Y. S. (2d) 401 (N. Y. Sup. Ct. App. Div. Feb. 1, 1943).

Driveways—Signs—Not Within Ordinance Prohibiting Use of Property as Accessory to Industry

A driveway located on land in borough and used merely for the purpose of maintaining a sign referring to the manufacturing of bricks and for ingress and egress to brick yard situated in an industrial zone in adjoining township, is not an accessory to the brick making industry so as to come within ordinance of borough prohibiting a use accessory to an industry. *Borough of Prospect Park* v. *McClaskey*, 30 Atl. (2d) 179 (Pa. Super. Ct. Feb. 1, 1943).

Eminent Domain—Payment of Condemnation Award to Owner of Record by Court Order

Where deceased deeded land to plaintiff's father and the land was recorded improperly against the wrong block, and subsequently the father's deed to plaintiff was properly recorded, the plaintiff could not recover from the city for paying condemnation award to deceased's estate when Supreme Court of New York had ordered the payment to the estate without knowledge of the improper recordation, although plaintiff filed claim with the city for the award but failed to indicate the source of his title. *Nolan* v. *City of New York*, 39 N. Y. S. (2d) 360 (N. Y. Sup. Ct. Richmond Co. Dec. 24, 1942).

Fire Department—Governmental Function—No Liability for Furnishing Employees with Defective Equipment

Where a fireman in the performance of his duties was injured when a defective cable of a fire escape he was testing broke, the City of Williamson was not liable for furnishing the fireman with a defective appliance since the maintenance of the fire department was a governmental function which exempted the city from liability. *Schwartz* v. *John A. Roebling's Sons Co. et al.*, 48 Fed. Supp. 346 (U. S. D. C. W. Va. Dec. 15, 1942).

Garbage—Liability of City for Injury to Employee in Collection of

Workman cannot recover for injury allegedly due to failure of city to supply garbage truck equipped with hoist as collection of garbage is a governmental function and therefore city is not liable. *Ashburn* v. *Oklahoma City*, 134 Pac. (2d) 365 (Okla. Feb. 2, 1943).

Housing—Tax Exempt—Bonds and Realty Devoted to Public Purpose

Bonds issued and realty acquired by City Housing Commission for slum clearance and construction of low rent housing projects are public purposes and are therefore exempt from county taxation. *Weber* v. *City of Frankfort*, 168 S. W. (2d) 344 (Ky. Jan. 19, 1943. Reh. Den. March 2, 1943).

Jehovah's Witnesses—Handbill Prohibition Unconstitutional

City may not prohibit distribution of handbills by Jehovah's Witnesses inviting public to attend meetings even though handbills contain advertisement concerning religious books which Jehovah's Witnesses sell. *Jameson* v. *State of Texas*, 63 Sup. Ct. 669 (U. S. Sup. Ct. March 8, 1943).

Jehovah's Witnesses—Peddling Ordinance Inapplicable

Ordinance relating to licensing of solicitors, hawkers and peddlers is not applicable to a Jehovah's Witness who sells books and pamphlets without profit to himself. *People* v. *Barber*, 46 N. E. (2d) 329 (N. Y. Ct. App. Jan. 7, 1943).

Labor Unions—Membership Fee Solicitation—Ordinance Prohibiting Unconstitutional

Petitioner is entitled to a writ of habeas corpus for being held on charge of violating ordinance prohibiting solicitation of a membership fee as prerequisite for joining a labor union since ordinance was broad enough to cover solicitation anywhere in town and therefore violated the United States Constitution. *Pittman* v. *Nix*, 11 So. (2d) 791 (Fla. Feb. 9, 1943).

Public Utilities—Franchise to Use Public Streets Not Exclusive Unless So Specified

Where an electric company in obtaining village's consent to use the streets for transmission of electricity did not receive an exclusive franchise, the village is not interfering with the franchise rights by attempting to use its streets for installation of municipal lighting plant. *Village of East Rochester* v. *Rochester Gas & Electric Corporation*, 46 N. E. (2d) 334 (N. Y. Jan. 14, 1943).

Sureties—Paving—Failure of City to Observe Ordinance Forbidding Contract with Prior Defaulter

A surety on paving contracts between city and construction company cannot recover from city the amount surety was required to pay for material used in contracts by construction company by alleging that construction company had defaulted previously on a contract with the city and that city ordinances forbade awarding a contract to a prior defaulter, since the enforcement of ordinances is a governmental function which relieves the city from liability for failure to enforce them. *City of Philadelphia to Use of Warner Co.* v. *National Surety Corporation et al.*, 48 Fed. Supp. 381 (U. S. D. C. Pa. Dec. 29, 1942. Just released for publication).

Tax Lien—Realty of United States Housing Corporation Not Subject to

Where United States Housing Corporation has quieted title as against defaulting purchasers of realty, such realty is not subject to tax liens by city, even though the city is not made party to title action and corporation took no steps to clear title for over 20 years. *United States* v. *City of Philadelphia et al.*, 48 F. Supp. 379 (U. S. D. C. Pa. Feb. 9, 1943).

For a Model Ordinance on Curfew for Minors, see page 89 of this issue.

Municipal Bond Market

The following are some recent sales of new issues as reported in May issues of *The Bond Buyer*:

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$200,000	Summit Co., Ohio, Real Estate Appraisal	1.0	4 Avg.	0.99
105,000	Montclair, N. J., Improvement	1.25	6.66 Avg.	1.238
185,000	Waterbury, Conn., Water Supply	1.3	14	1.29
100,000	Newport, R. I., Public Highway	1.5	1-20 Ser.	1.38
196,000	Youngstown, Ohio, Refunding	1.5	8.85 Avg.	1.46
4,000,000	Philadelphia, Pa., School Dist.; Refunding	1.5	1-16 Ser.	1.497
273,000	Ft. Worth, Texas, Ind., School Dist., Refunding	1.75	13.66 Avg.	1.71
1,024,000	Ft. Lauderdale, Fla., Refunding	4.0	19.5 Avg.	3.788
146,000	Owensboro, Ky., School Refunding	5 & 3.25	20	6 & 3.25

POMONA PUMPS STRETCH YOUR PUMPING DOLLAR

MINIMIZE YOUR REPLACEMENTS

Here Is How

POMONA PUMPS CUT REPLACEMENT COSTS

The Same Pomona Handles Different Jobs!
Because Pomonas are unusually adaptable, the same Pomona bought for pumping process solutions from a sump or vat, for example, can be easily converted to deep well primary water supply work by simply adding column pipe and shafting . . . or can be converted to line or booster pumping . . . or can even be mounted on a portable frame and used for shaft dewatering or other similar work.

This job-to-job adaptability means fewer new pump purchases with Pomonas!

To this Pomona Industrial Pump . . .

Add column pipe, and you have a Deep Well Pump

. . . or place in the line for Booster Pumping . . . or mount on an "A" frame for dewatering work!

The Same Pomona Handles Different Capacities:
One important reason why a Pomona Pump can be so readily moved from job to job is its ability to handle varying flow requirements *without wasteful throttling.* Its semi-open impellers can be easily adjusted at the motor for regulating capacity over a range to 60% of design point with proportionate power savings. Permits handling widely differing flow requirements without replacing pump or wasting power!

Conventional Flow Pattern

Pomona's Stay on the Job Longer! Pomonas are unique in that the water path through impellers and bowls is free from abrupt changes in direction of flow. Instead, the water rises in a gentle curving flow that reduces friction and abrasion, lengthens life and minimizes replacements. This feature—important in all pumping—is particularly vital where unusually gritty or suspension-laden fluids are handled!

Pomona Flow Pattern

POMONA
Water-Lubricated
PUMPS

JOSHUA HENDY IRON WORKS
POMONA PUMP CO. DIVISION
120 BROADWAY, NEW YORK CITY
Plants: 4301 So. Spring Ave., St. Louis, Mo.
206 Commercial Street, Pomona, California

IN ADDITION, Pomona Pumps cut replacements because they are self-lubricated by the fluid being pumped, eliminating risk of neglecting lubrication and damaging pump. They have no wear rings to renew or replace. And the bulbous-end vane shape, besides increasing efficiencies above the 90% mark on many sizes within the range, provides additional strength and longer wearing life to pump bowls, further reducing replacement costs!

There are many other important ways Pomonas cut replacements. Your nearby Pomona distributor will gladly supply full details. Why not call him today?

Prepared by
FRANK B. WILLIAMS
Author of "The Law of City Planning and Zoning"

Zoning and Planning Notes

With the cooperation of
ALBERT S. BARD
Counsel,
National Roadside Council

Parking—Private Streets

MISSOURI.—*City of Clayton* v. *Nemours*, St. Louis Court of Appeals, October 6, 1942, reported in 164 S. W. (2d) 935.

The defendant Nemours is charged in this case with the illegal parking of his automobile in a no-parking zone on Glen Ridge Avenue, in the City of Clayton, which in so far as ownership and management is concerned, is a private street; but save for one week in the year, when its north and south entrances are closed off alternately, to prevent the acquisition of easements or other rights in the street, it is open for public traffic, and is extensively used for that purpose, both by persons living in the restricted district of which the street is a part and by the general public, for access to this district and transit through it.

In general, the city has no legal right to prohibit parking in a private street. But the word "public" has a dual meaning. In one sense it may be employed to describe the character in which a thing is held, while in another and equally proper sense it may denote the use to which the thing is put. In the latter sense Glen Ridge Avenue is a public street, in so far as concerns the right of the city to regulate traffic upon it; since, by the sufferance and permission of the owners it has become a place for vehicular travel by the public, or, in other words, a *de facto* street amounting to a public highway.

Nor does this conclusion encroach upon the rights of private property, or confer upon the city any title to the street. The owners of Glen Ridge Avenue may exclude the public from it at any time they wish. The license heretofore granted to the general public to use the street will continue only so long as it may suit the convenience of those in whose power it is to grant or deny the license. But so long as the owners of the street do allow the street to be used as at present, the necessity for regulation will exist in no less a degree than would be the case if the street were publicly owned and maintained; and the city, during all such time, may prescribe reasonable rules by which the privilege thus extended may be enjoyed by all members of the general public, as well as the owners of the street and their families, who must likewise conform to the regulations thus imposed.

As Edward M. Bassett has retired from the active practice of zoning and planning law, his name will no longer appear at the head of this monthly page, in the editing of which he has cooperated with Frank B. Williams for so many years. Similar assistance is to be given in future by another eminent lawyer in this field, Albert S. Bard.

Zoning Amendment—Twenty Per Cent Protest Clause—Non-Conforming Use—Outdoor Parking

NEW YORK.—*Bowen* v. *Hider*, Supreme Court, Broome County, September 15, 1942, reported 37 N.Y.S. (2d) 76.

An ordinance of the City of Binghamton, amending the zoning ordinance of the city, authorized the Council to grant special permits for free automobile parking in districts in which by the zoning ordinance it had not been allowed. Later an ordinance was passed authorizing Hider to use the rear 110 feet of his lot in a residential district, where it was not permitted, for free auto parking.

A protest against the issuance of this permit was filed by neighboring property owners who claim that this is an amendment of the zoning ordinance requiring a three-fourths vote of the Council. This contention the court sustains. Regardless of the form it took, the second ordinance granting the special permit purported to allow a change in zoning use. It is no answer to say that an opportunity for protest was presented when the first ordinance was before the Council, for that ordinance worked no change in any particular district or area, and protest would have required the signatures of the owners of 20 per cent of the frontage of all the property in the city lying in districts where free parking was then prohibited. Obviously this would be virtually impossible and would render the protest provisions a complete nullity for all practical purposes. The court found, however, that a protest by 20 per cent of the requisite frontage was not made in this case and that therefore a three-fourths vote of the Council was not necessary.

The next contention is that the change in the zoning ordinance was void because it was "spot zoning" and not in accordance with any well-considered plan. The court reviews the facts in this case and decides against this contention.

Next, Hider claims that his property has been devoted to a non-conforming use. The evidence shows that for many years there was a row of stall garages on the rear of the lot in question, which had been rented to various parties. Merchandise was on occasion stored in these garages and the area around them used for temporary parking purposes. This constituted non-conforming use; for it goes far beyond the use permitted by the zoning ordinance of accessory buildings and uses customarily incident to uses located on the same lot and not involving the conduct of a business, including private and storage garages.

Hider further contends on the basis of the non-conforming use that he is entitled to demolish the stall garages and utilize the same area for free outdoor parking, on the theory that outdoor parking is the same use as that just described. This, however, is not true. The existing use is storage; quite different from parking. One has a certain degree of permanency, while the other connotes transcience. In the one the number of cars is necessarily limited, while in the other there is a constant turnover and many times that number may be accommodated every twenty-four hours. It is well settled that a prohibited use cannot be substituted for a different prohibited use under the guise of the continuance of a non-conforming use.

Residential Zoning District—State Liquor License—Local Self Government

OHIO.—*Carnabuci* v. *City of Norwalk*, Court of Appeals, Huron County, August 3, 1942, reported 46 N. E. (2d) 773.

A zoning ordinance of the city of Norwalk placed the private residence of Angelina Carnabuci, the plaintiff in this case, in a residential district. Subsequently the State Department of Liquor Control issued to her a license to conduct in her residence the business of manufacturing wine and importing and purchasing wine in bond for blending purposes; and she conducted this business there. The premises had never previously been used for commercial purposes.

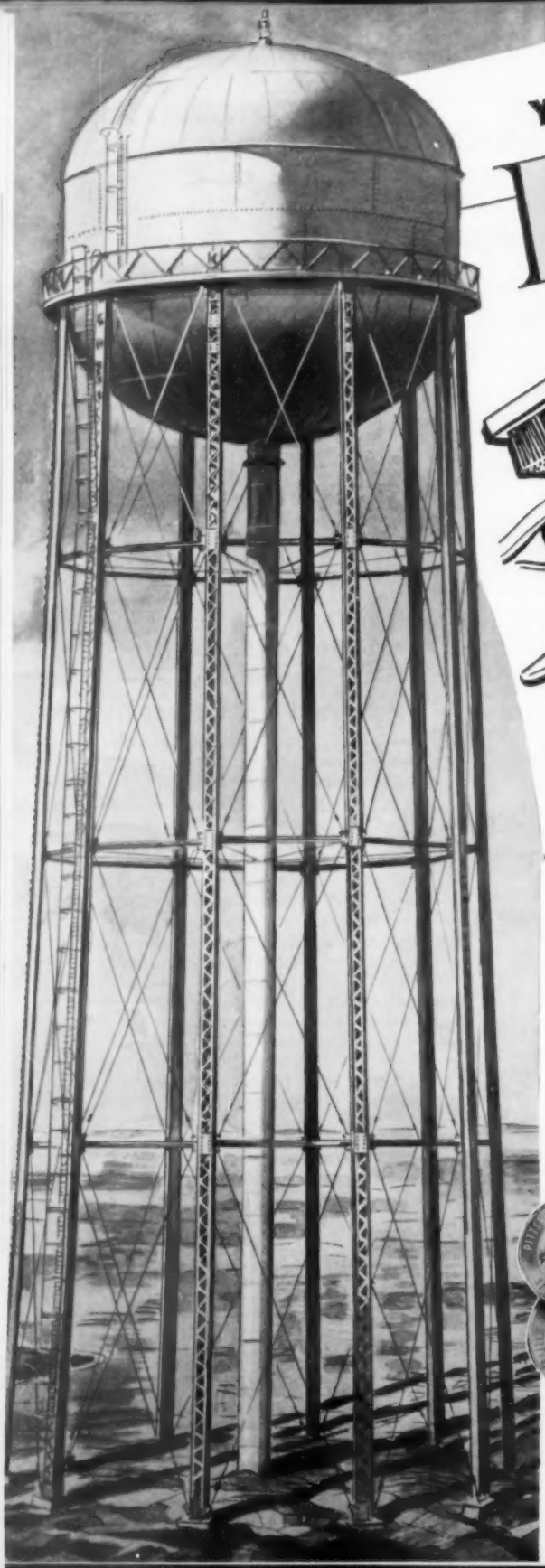
Section 3, Article XVII of the State Constitution gives municipalities the right "to exercise all powers of local self government, and to adopt and enforce within their limits such local police, sanitary and other similar regulations as do not conflict with general laws."

In its opinion the Court says:

"The ordinance was in force and effect prior to the issuance by the liquor board of the permit to the plaintiff, and of the opening and operation of her business on the premises in question. . . . It is unnecessary to discuss the scope and extent of the power conferred by the constitution upon municipalities," by the section of the State Constitution above cited. "It is sufficient to say that the power and authority of the city to enact the ordinance is at least commensurate with that of the Department of Liquor Control to issue the permit, and it and the city must each take cognizance of the lawful exercise of the power and authority possessed by the other. Whatever the range of the power vested in municipalities" by the above cited section "of the Constitution may be, the permit having been issued subsequent to the adoption of the ordinance, cannot be used by the plintiff as warrant for the establishment and conduct of her business" in the residential area.

She was therefore found guilty of violating the ordinance.

Judge Carpenter dissents on the ground that the liquor laws were general state laws and should prevail over local enactments.



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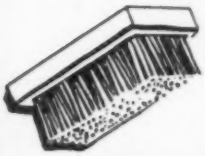

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Conventions—When and Where

June 14-17—Omaha, Nebr.
AMERICAN PLANNING AND CIVIC ASSOCIATION. Citizens Conference on Planning. (Hotel Fontenelle.) Exec. Sec., Miss Harlean James, 901 Union Trust Bldg., Washington, D. C.

June 14-17—Los Angeles, Cal.
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Semi-Annual Meeting. (Hotel Biltmore.) Exec. Asst. Sec., Ernest Hartford, 29 W. 39th St., New York.

June 15-17—Pittsburgh, Pa.
MUNICIPAL FINANCE OFFICERS' ASSOCIATION OF THE UNITED STATES AND CANADA. (Hotel William Penn.) Exec. Sec., Carl H. Chatters, 1313 E. 60th St., Chicago, Ill.

June 15-18—Cleveland, Ohio
AMERICAN WATER WORKS ASSOCIATION. Conference on War Winning Water Works Operations. (Hotels Carter and Statler.) Sec., Harry E. Jordan, 500 Fifth Ave., New York.

June 18-19—Boulder, Colo.
COLORADO MUNICIPAL LEAGUE. (Hotel Boulderado.) Sec., H. A. Storey, University of Colorado, Boulder, Colo.

June 21-22—Chicago, Ill.
NATIONAL ASSOCIATION OF TAX ADMINISTRATORS. Annual Meeting. (Hotel Shoreland.) Acting Exec. Sec., George H. Watson, 1313 E. 60th St., Chicago, Ill.

June 21-25—Cleveland, Ohio
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS. National Technical Meeting. (Hotel Cleveland.) Sec., H. H. Henline, 33 W. 39th St., New York.

June 22-24—Saskatoon, Sask., Canada
SASKATCHAWAN URBAN MUNICIPALITIES ASSOCIATION. (Hotel Bessborough.) Sec.-Treas., W. E. Hodge, 503 Scott Block, Moose Jaw, Sask., Canada.

June 22-24—New York, N. Y.
SPECIAL LIBRARIES ASSOCIATION. Annual Convention. Exec. Sec., Mrs. Kathleen B. Stebbins, 31 E. 10th St., New York.

June 23—Mansfield, Ohio
OHIO CONFERENCE ON SEWAGE TREATMENT. Annual Conference. (Hotel Mansfield-Leland.) Sec., J. R. Turner, c/o Sewage Treatment Plant, Mansfield, Ohio.

June 24-26—Baltimore, Md.
EASTERN ASSOCIATION OF FIRE CHIEFS. Annual Convention. (Lord Baltimore Hotel.) Sec., Charles E. Clark, Box 217, Wayne, Pa.

***July 9-10—Butte, Mont.**
MONTANA MUNICIPAL LEAGUE. Annual Convention. (Hotel Finlen.) Sec., M. J. Mee, 519 Birch St., Anaconda, Mont.

July 11-16—Dallas, Texas
SOUTHWESTERN CHAMBER OF COMMERCE INSTITUTE. (Adolphus Hotel.) Mgr., Roger Miller, Chamber of Commerce Bldg., Dallas, Texas.

July 19-20—Harrisburg, Pa.
PENNSYLVANIA CHIEFS OF POLICE ASSOCIATION. War Conference. (Hotel Penn-Harris.) Sec., F. B. Titus, Lansdowne, Pa.

July 25-31—Missoula, Mont.
ROCKY MOUNTAIN INSTITUTE FOR COMMERCIAL ORGANIZATION EXECUTIVES. (Montana State University Campus.) Sec.-Treas., Donald Marcellus, 1445 Rand Tower, Minneapolis, Minn.

July 27-29—Buffalo, N. Y.
NEW YORK STATE ASSOCIATION OF CHIEFS OF POLICE. (Hotel Statler.) Sec.-Treas., R. W. Morris., P. O. Box 346, Geneva, N. Y.

***July 28-30—Los Angeles, Cal.**
AMERICAN SOCIETY OF CIVIL ENGINEERS. Annual Convention. (Hotel Biltmore.) Sec., George T. Seabury, 33 West 39th St., New York.

***August 9-11—Detroit, Mich.**
INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE. 50th Annual Conference. (Hotel Statler.) Exec. Sec., Edward J. Kelly, 918 F St., N.W., Washington, D. C.

August 16-18—Cedar Rapids, Iowa
LEAGUE OF IOWA MUNICIPALITIES. Annual Convention. (Hotel Montrose.) Sec.-Treas., Frank G. Pierce, Marshalltown, Iowa.

***August 26-27—Seattle, Wash.**
INTERNATIONAL ASSOCIATION OF ELECTRICAL INSPECTORS—NORTHWESTERN SECTION. (New Washington Hotel.) Sec., F. D. Weber, P. O. Box 70, Portland, Ore.

***Week of August 30—Los Angeles, Calif.**
INTERNATIONAL ASSOCIATION OF ELECTRICAL INSPECTORS.—SOUTHWESTERN SECTION. Sec., H. L. Gerber, Room 205, City Hall, San Francisco, Calif.

August 31-Sept. 3—Chicago, Ill.
INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual Convention. (Palmer House.) Sec., Daniel B. Tierney, 8 Robbins Rd., Arlington, Mass.

***Sept. 2-4—Salt Lake City, Utah**
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS. National Technical Meeting. Natl. Sec., H. H. Henline, 33 W. 39th St., New York.

***Sept. 10-14—Chicago, Ill.**
INTERNATIONAL CITY MANAGERS' ASSOCIATION. Annual Conference. (Edgewater Beach Hotel) Dir., Clarence E. Ridley, 1313 E. 60th St., Chicago, Ill.

***Sept. 13-15—Chicago, Ill.**
INTERNATIONAL ASSOCIATION OF ELECTRICAL INSPECTORS—WESTERN SECTION. (Hotel LaSalle) Sec., F. H. Moore, 320 N. Meridian St., Indianapolis, Ind.

***Sept. 13-17—Lake Placid, N. Y.**
MUNICIPAL ELECTRIC UTILITIES ASSOCIATION OF NEW YORK STATE. Annual Conference. (Lake Placid Club) Sec., T. J. McKee, 200-212 East Third St., Jamestown, N. Y.

***Sept. 16-17—Denver, Colo.**
AMERICAN WATER WORKS ASSOCIATION—ROCKY MOUNTAIN SECTION. Annual Meeting and Wartime Conference. (Hotel Cosmopolitan) Sec., O. J. Ripple, Superintendent of Filtration, Littleton, Colo.

***Week of Sept. 20—New York, N. Y.**
INTERNATIONAL ASSOCIATION OF ELECTRICAL INSPECTORS—EASTERN SECTION. Sec., F. N. M. Squires, 85 John St., New York.

***Sept. 21-24—San Francisco, Calif.**
LEAGUE OF CALIFORNIA CITIES. Annual Conference. Sec.-Treas., Chas. Schwanenberg, City Manager, Oakland, Cal.

***Sept. 22-23—Pittsburgh, Pa.**
AMERICAN WATER WORKS ASSOCIATION—WESTERN PENNSYLVANIA SECTION. Annual Meeting. (Hotel Roosevelt) Sec., E. P. Johnson, 418 Flannery Bldg., Station 13, Pittsburgh, Pa.

***Sept. 26-28—Roanoke, Va.**
LEAGUE OF VIRGINIA MUNICIPALITIES. Annual Convention. (Hotel Roanoke) Exec. Sec., Harold I. Baumes, 902 Travelers Bldg., Richmond, Va.

***Sept. 27-29—New Orleans, La.**
INTERNATIONAL ASSOCIATION OF ELECTRICAL INSPECTORS—SOUTHERN SECTION. (Hotel Roosevelt) Sec., C. M. Jones, 307 Trust Company of Georgia Bldg., Atlanta, Ga.

***Sept. 28-29—Boston, Mass.**
NEW ENGLAND WATER WORKS ASSOCIATION. Annual Meeting. (Hotel Statler) Sec., Frank J. Gifford, 615 Statler Bldg., Boston, Mass.

***Sept. 30-Oct. 1—Binghamton, N. Y.**
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Fall War Conference. (Hotel Arlington) Sec.-Treas., R. K. Blanchard, 50 W. 50th St., New York, N. Y.

***Oct. 5-7—Chicago, Ill.**
NATIONAL SAFETY COUNCIL. 32nd National Safety Congress & Exposition. (Hotels Sherman, LaSalle, and Morrison) Exec. Vice-Pres., Ned H. Dearborn, 20 North Wacker Drive, Chicago, Ill.

***Oct. 11-13—Oklahoma City, Okla.**
AMERICAN WATER WORKS ASSOCIATION—SOUTHWEST SECTION. Wartime Conference. (Hotel Biltmore) Sec., George J. Rohan, Supt. Water Works, Municipal Bldg., Waco, Texas.

***Oct. 12-13—Milwaukee, Wis.**
AMERICAN WATER WORKS ASSOCIATION—WISCONSIN SECTION. Wartime Water Works Conference (Hotel Plankinton) Sec., Leon A. Smith, City Hall, Madison, Wis.

***Oct. 12-14—New York, N. Y.**
AMERICAN PUBLIC HEALTH ASSOCIATION. Wartime Public Health Conference and 72nd Annual Business Meeting. (Hotel Pennsylvania) Exec. Sec., Dr. Reginald W. Atwater, 1790 Broadway, New York.

***Oct. 21-23—Chicago, Ill.**
FEDERATION OF SEWAGE WORKS ASSOCIATIONS. Wartime Sanitation Conference; Joint Meeting with the Central States Sewage Works Association (Hotel Sherman) Sec., W. H. Wisely, Box 18, Urbana, Ill.

***Oct. 21-25—Chicago, Ill.**
CENTRAL STATES SEWAGE WORKS ASSOCIATION. Joint Meeting with the Wartime Sanitation Conference of the Federation of Sewage Works Associations. (Hotel Sherman) Sec.-Treas., J. C. Mackin, Route 4, Madison, Wis.

***Week of Oct. 24—Chicago, Ill.**
THE AMERICAN MUNICIPAL ASSOCIATION. Annual Conference. Exec. Dir., Earl D. Mallery, 1313 E. 60th St., Chicago, Ill.

***Oct. 24-27—Chicago, Ill.**
AMERICAN PUBLIC WORKS ASSOCIATION. Annual Meeting and 1943 Public Works Congress. (Hotel Sherman) Exec. Dir., Norman Hebden, 1313 E. 60th St., Chicago, Ill.

***Oct. 24-27—Pittsburgh, Pa.**
NATIONAL ASSOCIATION OF COMMERCIAL ORGANIZATION SECRETARIES. War Conference—Annual Meeting. (Hotel William-Penn) Asst. Sec.-Treas., Mrs. Norma McKellops, 1615 H St., N.W., Washington, D. C.

October 27-29—Los Angeles, Cal.
AMERICAN WATER WORKS ASSOCIATION—CALIFORNIA SECTION. Annual Meeting. (Hotel Biltmore) Sec., H. Arthur Price, Box 3669, Terminal Annex, Los Angeles, Calif.

***Oct. 28-29—Niagara Falls, Ont., Canada**
THE CANADIAN INSTITUTE ON SEWAGE AND SANITATION. Annual Convention. (Hotel General Brock) Sec.-Treas., A. E. Berry, Dept. of Health, Parliament Bldg., Toronto, Ont., Canada.

M.I.T. to Hold September Conference on City and Regional Planning

The Massachusetts Institute of Technology announces that a two weeks' Conference on City and Regional Planning will be held at the Institute from September 7 to 18, 1943. The Conference is to be sponsored jointly by the Institute and the American Society of Planning Officials. It will be open to men and women who have had practical experience in planning or in a related professional field, including planning technicians, members of state or municipal planning commissions and housing authorities, and staff members of engineering or public works departments.

Inquiries should be addressed to Professor Frederick J. Adams, Division of City Planning, Massachusetts Institute of Technology, Cambridge, Mass.

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Wartime Aids—Post-War Needs

A Home Town Magazine for the Boys in Service

A COMMUNITY enterprise sure to be heartily welcomed by the men and women of Belleville now serving in the armed forces has been inaugurated by a group of citizens of that New Jersey town. It takes the form of an 8-page bulletin, *Belleville Today*, well edited, illustrated, and printed, the first issue of which was published last month.

Prime purpose of the town news organ is to keep servicemen posted on the developments in their home town, particularly with respect to civic, religious, and industrial progress and to indicate to the service personnel that the folks back home are behind them in spirit and deed and are striving to create in their community a better town to which their fighting sons and daughters can some day return. While it is felt such a publication will bolster the servicemen's morale, it is believed it will also awaken the interest of a wider group of citizens to problems of civic and post-war planning.

Backed by the endorsement of Belleville's Town officials, schools, churches, organizations, defense council, draft board and business concerns, the actual cost of the publication is underwritten by a group of twenty-three local industries known as the Belleville Manufacturers' Association. To be published every three months, it does not conflict with the local newspapers. There is no advertising. Distribution is free to servicemen and town residents. Incorporated as a non-profit organization, *Belleville Today* has leading townspeople serving as trustees and officers. The editorial and production staff is a group of volunteer citizens devoting evenings and week-ends to the task. Staff members were chosen upon basis of similar experience in their regular lines of work, making the production of *Belleville Today* follow professional techniques with a minimum cost in time.

In addition to 2,100 copies of *Belleville Today* being mailed to service men and women under first class postage, 7,000 copies will be distributed to the homes of Belleville by the 1,100 air raid wardens of the town. Another 12,000 copies will be distributed by industries to their employees, and industry will also mail copies to their personnel in the service. The production and distribution cost of 22,000 copies will average about $900 per issue.

Robert Sutherin, Editor, may be addressed at Box 8, Belleville, N. J.

Outdated Building Codes—Hindrance to Progress

ONE of the deeply intrenched hindrances to progress is the antiquated city building code. The war has focused attention upon the idiocy of such codes. We have had to build in a hurry, with a minimum of manpower and materials; so the codes have been set aside and their inadequacies demonstrated. When peace comes we must knock out these old rules and substitute modern, elastic regulations that permit the use of new construction methods and materials. This can be done without exposing the public to inferior or dangerous practices.

Building codes should be put on a qualitative basis. Instead of specifying that a wall be so many inches thick, the modern code should specify its load-bearing and surface strength, its imperviousness to weather, its insulation value, and other necessary requirements. A roof should be judged by its capacity to withstand the strains of wind, rain and snow, not by how its rafters and shingles are assembled.

Many new materials and construction methods will require testing and approval. This should be the function of a government agency which also would insure loans only on dwellings erected by methods and with materials approved for use in specified areas. Types of construction should be approved in relation to the value of the dwelling, so that loans will not be made to finance needlessly expensive forms of construction. This procedure will pull the teeth of obsolete codes persisting in stubborn communities. For the Federal Government will say —"In these areas we will insure loans if you meet such and such requirements." No community will be able to hold out long against such an inducement.

—Bror Dahlberg, President, The Celotex Corporation—From an address before the American Society of Planning Officials.

Total Locality Programs Essential for the Post-War Job

IN an address before the annual meeting of the National Association of Housing Officials in New York City on May 20, Jacob Crane, Director of Urban Studies, National Housing Agency, expressed the belief that post-war democracy must provide decent housing for all our families; that housing programs and city building programs are inseparably interwoven; and that, except perhaps for economic welfare and security, our post-war housing-city-building work is the most vital domestic job ahead of us.

While recognizing that the federal agencies will probably be required to assume certain specific responsibilities, Mr. Crane emphasized the necessity for local planning for the whole of each urban locality, for all of the families, for all of the existing facilities. He pointed out the need for over-all long-range programs, perhaps for a generation ahead; shorter-range, more specific programs, perhaps for a six-year period; and perfectly specific one-year programs

For these purposes, urban locality plan and program boards, one for the whole of each urban locality, were advocated. Amplifying his proposition, Mr. Crane said:

In some localities an existing planning or housing agency will be available for this work. Where they are not already established, we need state legislation and locality organization of such boards. Within them the municipal planning boards and housing authorities and other public and private agencies should have representation. Then the job of the locality board should be largely that of assembling and composing the plans and programs of the individual municipalities lying within the locality, and that of helping to make the plans and programs effective. The agencies of the states have an important role in stimulating, initiating, and aiding the locality boards.

We have to formulate methods to deal with concentration versus dispersion; methods to analyze and reflect job geography—the relation between work places and homes; methods to evaluate and catalogue the neighborhood requirements of post-war urban life; methods to formulate policies and measures affecting that basic resource—urban land; methods to develop housing codes; methods to make garden suburbs and garden cities out of a suburban boom.

All of these methods we need in form for use *in the localities*, for each locality to appraise its own problems, to catalogue its own alternatives, to reach its own basic decisions, to make its own program. And we need these methods soon, so there will be some chance to get ready in time.

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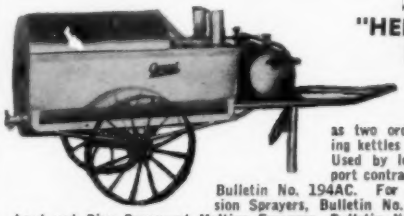

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The City—Its Growth, Its Decay, Its Future.—By Eliel Saarinen. Reinhold Publishing Corp., New York. 1943. *xvi* + 380 *pp.* $3.50.

A thorough analysis of the post-war problem of providing urban residents with satisfactory accommodations and healthful environments in which to live and work. However, the author does not consider the problem from a mere war emergency angle, but in the light of such principles as can secure results that are both constructive and lasting.

The first part deals with the past—how the urban community during historic times was born, grew, aged, and then decayed; and why all this happened. In the second part Mr. Saarinen investigates contemporary and future town-building problems — discussing concentration, an organic solution of the problems of decentralization, the economic and legislative issues, and the extent to which urban population may effectively influence the development and character of towns and cities. In the epilogue the question of town design is examined.

Mr. Saarinen has visualized the city's gradual evolution toward the city to come, always retaining the human and livable side of the problem as the main theme. This book will be of interest to idealists and to those with a practical turn of mind; to professional planners and civic authorities, as well as to all those interested in the improvement of urban life.

Legislation Relating to Children

Two Publications of the Children's Bureau, United States Department of Labor, Washington, D. C.

Legislation for the Protection of Children in Wartime.—1943. 35 *pp., offset.*

A comprehensive statement on those aspects of the children's program which may require legislative action in the several states. Covers topics such as maternal and child-health programs, public assistance in relation to wartime needs of children, school opportunity and attendance, and liberalization of residence requirements. Does not outline bills on the various subjects covered, but the material is intended to serve as a source of information and guidance to those taking leadership in providing more adequate services for children in these crucial times.

Regulation of Street Trades in the United States.—1942. 14 *pp., mimeo.*

Discusses generally the regulation of street trades provided by the Fair Labor Standards Act, state legislation, and municipal ordinances. Summarizes provisions of state laws specifically relating to employment of children in street trades.

History of Juvenile Delinquency

Concerning Juvenile Delinquency.—By Henry W. Thurston. Columbia University Press, New York City. 1942. *vii* + 236 *pp.* $2.75.

This book presents juvenile delinquency from every angle: the court, detention home, the jail, the probation officer, the community, the social settlement, and the delinquent himself. The author, who has had a long experience with the problem, presents the subject historically and tries to make it clear that perspective as regards both cause and treatment is essential for successful case work with juvenile delinquents.

Planning for City Living

Living in Cities.—By Ralph Tubbs. Penguin Books, Harmondsworth, Middlesex. 1942. 51 *pp. Apply to British Information Services, 30 Rockefeller Plaza, New York City.*

An attractive booklet, with many vivid photographs, which traces the growth of cities from ancient times to the present and emphasizes the need for organization and large-scale planning in order to make the city of the future a place for happy living. The author stresses the need for planners to consider national issues as well as pleasant homes and workplaces, schools, recreation, and health, in drawing up their blueprints.

Fire Equipment Standards

National Fire Codes for Extinguishing and Alarm Equipment.—Compiled by Robert S. Moulton. National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 1943. 671 *pp.* $3.00.

Volume bringing together for convenient reference the many standards dealing with the various types of fire extinguishing and alarm equipment, and related features of supervision, maintenance, and organization. It is limited to the official standards of the National Fire Protection Association on these subjects. The history of each standard is given in the introductory note preceding it; also information as to its availability in separate pamphlet form where so published.

Chicago Public Library History

The Chicago Public Library—Origins and Background.—By Gwladys Spencer. The University of Chicago Press, Chicago, Ill. 1943. *xvii* + 473 *pp.* $4.50.

A presentation of library history in Chicago from its beginning through 1872 and, more briefly, in the surrounding state of Illinois; a description of the development of the Chicago Public Library; and a discussion of its significance and relation to the history of the American library movement as a whole.

City Ordinance Codification

The Municipal Code of Oglesby, Ill.—Revised and Codified by D. J. Campeggio, Corporation Counsel, City of Oglesby, La Salle County, Ill. 1943. *viii* + 111 *pp.*

Revision and codification of the general ordinances of the city of Oglesby, with omissions supplied, defects corrected, and obsolete and antiquated provisions repealed. Divided into six parts: City Government, Municipal Utilities, Public Streets and Sidewalks, Licenses and Regulations of Business, Public Health and Safety, and other provisions.

Public Medical Care

Manual of Medical Care.—Division of Medical Care, Nassau County Department of Public Welfare, Mineola, L. I., New York. 1942. *xiii* + 131 *pp., offset.*

Manual of regulations governing the administration of medical care to the indigent, prepared by Division of Medical Care of Nassau County, at the request of the New York State Department of Social Welfare. Presents the policies and procedures which have evolved as the result of many years' experience in the administration of a public medical program which provided the physician-of-choice authorized on a fee-for-service basis.

Traffic Court Administration

Traffic Courts.—By George Warren. Published under the joint auspices of the National Conference of Judicial Councils and the National Committee on Traffic Law Enforcement. Little, Brown and Co., Boston. 1942. xi + 280 *pp.* $4.00.

This book is the result of a nation-wide inquiry into the work of courts with traffic jurisdiction, made in the hope of evolving standard procedures adequate to cope with the many problems of traffic court administration. The author studied the traffic laws of each state and the laws governing the courts that enforce traffic laws; investigated the practices and problems of traffic courts, including all phases of procedure, physical facilities, methods of deterrence, and judicial and clerical personnel; and delved into political and public relations. Proposals for an improved traffic court system are put forth.

Public Relations in the Public Service

A Study in Public Relations.—By Harold P. Levy. Russell Sage Foundation, New York. 1942. 165 *pp.*

This timely "study" is of the efforts of the Pennsylvania Department of Public Assistance to translate its policies and procedures to its clients and to the general public. It deals, in successive chapters, with the methods and techniques which were utilized to increase awareness of, and participation in, its activities. The relations appraised here run all the way from the legislature through various pressure groups to its own personnel. Among the methods used were correspondence, press releases, direct contacts with civic groups, publications, and information services to other public agencies. The author has made a valuable contribution, not only in his analysis of how it was done in one government agency, but of how—and why—public relations should be established as an integral function and organization in other areas of governmental action. This is the best available brief guide to effective public relations in the public service, drawn explicitly from actual experience.

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Agencies Engaged in Post-War Activities

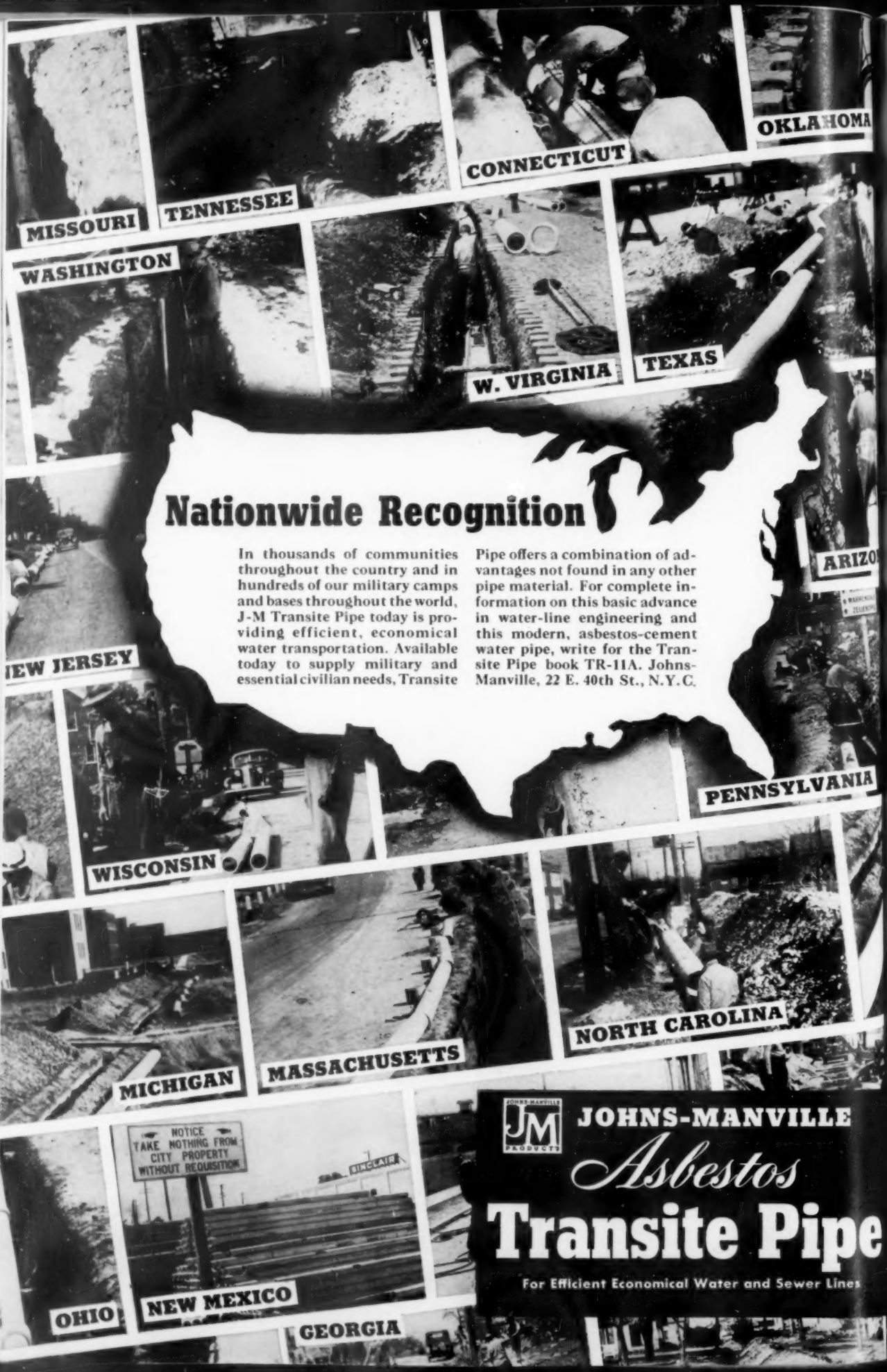
Post-War Planning in the United States: An Organization Directory, 2.—Twentieth Century Fund, 330 W. 42d St., New York City. 1943. 101 *pp.* $1.00.

A directory describing 137 research and educational agencies in the United States (governmental and private), which are working on post-war questions. International and regional problems, business and finance, housing and urban redevelopment, legal questions, public discussion and opinion, public works and transportation, are some of the major fields being studied.

Cleveland Airport Region Report

Preliminary report on the Cleveland Airport Region.—Prepared by the Staff of the Cleveland City Planning Commission, City Hall, Cleveland, Ohio. 1943. 43 *pp., mimeo.*

Report submitted to the joint Committee on the Cleveland Airport Region and the Cleveland City Planning Commission, which presents facts and recommendations concerning housing, transportation, traffic, police and fire protection, and school, recreation and hospital facilities made necessary by the location of new industries in the region.



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Los Angeles Planning Report

Accomplishments — 1942. — City Planning Commission, Los Angeles, Calif. 1943. *Unpaged.*

Attractive, illustrated annual report of the Los Angeles Department of City Planning, which presents a review of its activities and accomplishments of the year 1942. Lists its publications of the year, and outlines a future program.

Employee Classification System

Audit of City Employee Classification System and Its Operation.—Municipal League of Toledo, 312 Colton Building, Toledo, Ohio. 1943. 10 *pp., mimeo.*

Purpose of this study is to investigate and report on the adequacy of the job specification and job classification plan of the employees of the city of Toledo. It is drafted in the form of an operational guide, as well as an analysis of existing erroneous classifications and their causes. Does not deal with the uniformed employees in the police and fire departments, or the employees of the engineering and the health services, nor is the problem of salary included.

British Civilian Defense

Front Line.—Issued for the British Information Services, 30 Rockefeller Plaza, by the Macmillan Co., New York. 1943. 159 *pp.* $1.50.

The official story of the civil defense of Britain, written in a documentary style and containing numerous striking photographs. Describes the various types of blitz which the Germans have attempted and the functions and organization of the different defense groups, how they handle disrupted communications, feed and house the homeless, guard against polluted water and disease; how each service is organized within itself, as well as in relation to other activities.

Structural Engineering

Structural Members and Connections.—Editors-in-Chief, George A. Hool, S. B., Consulting Engineer, and W. S. Kinne, B. S., Professor of Structural Engineering, University of Wisconsin. Second Edition, 1943. *McGraw-Hill Book Co., Inc., New York. xvi + 639 pp.* $6.00.

Volume prepared not only for the practicing engineer, but also for the student who desires to consult a reference work which embodies and thoroughly covers the subject of structural members and their connections. Covers general theory; design of steel, cast-iron, wooden, and reinforced concrete members; and splices and connections for wooden and steel members. Numerous major changes from the first edition have been made.

Proportional Representation

The Case for P. R.—By George H. Hallett, Jr. Reprinted from the Spring, 1943, *number of The American Scholar, published by the United Chapters of Phi Beta Kappa, 12 E. 44th St., New York City. 12 pp.*

An article presenting the argument in favor of proportional representation, in which the author shows how this system comes closer to guaranteeing real majority rule by assuring due representation to minorities, minority parties, minorities within parties, and independent minorities that do not wish to be represented on party lines. Discusses the experiences of various cities, here and abroad, with "P. R."

Public Administration Directory

1943 *Supplement to Public Administration Organizations.—Public Administration Clearing House, 1313 E. 60th St., Chicago, Ill.* 1943. 24 *pp., offset.* 25c.

The 1943 supplement to this directory of unofficial organizations in the field of public administration has been prepared to bring up-to-date the names and addresses of executives of the national organizations named in the 1941 edition. No attempt has been made to revise the listings of state-wide organizations.

Civilian Defense Information

Publications of the United States Office of Civilian Defense, Washington, D. C.

Protection of School Children During Air Raids—A Fact Sheet.—1943. 4 *pp., offset.*

Fact sheet summarizing the results of nation-wide experience on the best methods for protecting school children during air raids. Includes a digest of Circular Protection Series No. 10, *Protection of School Children During Air Raids,* which supplements OCD Publication 3023-1 of October, 1942, *Protection of School Children and School Property.*

Motor Transport and Convoys.—1942. *ii* + 14 *pp.*

Guide for use by large transportation companies and local defense council motor transport officers in moving their units in convoy formation or individually, for either troop movement or evacuation of the civilian population.

Protection and Maintenance of Public Water Supplies under War Conditions.—1943. 24 *pp., offset.*

Outlines a cooperative plan of mutual aid for water works, in some ways like that used by fire and police departments; describes functions of participating officials; and suggests activities and specific measures to be considered by local water works to the end that water service may be maintained during an emergency.

Bomb Reconnaissance—Prepared by the War Department with the Assistance and Advice of Other Federal Agencies. 1942. *iv* + 35 *pp.*

Illustrated pamphlet instructing civilian defense organizations in the disposal of unexploded and delayed action (time) bomb and explaining to them how their cooperation with military personnel for that purpose is most essential.

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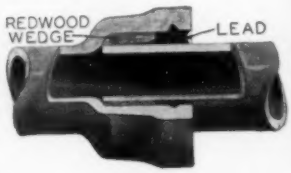

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Commercial Growth and Planning

Industrial and Commercial Background for Planning Chicago.—Chicago Plan Commission, 20 N. Wacker Drive, Chicago, Ill. 1942 *(Released April,* 1943). 66 *pp.* $1.00. *Apply to Municipal Reference Library, City Hall, Chicago, Ill.*

The establishment of a chain of very large new manufacturing plants near the periphery of the city of Chicago, the heavy industrial expansion, and the impact of other phases of the war effort on Chicago's trade and commerce prompted the Plan Commission to make an intensive study of these developments. The resulting report is divided into three parts—the first deals with the historical development of Chicago's industries; the second treats the economic and statistical trends of manufacturing in Chicago and its region; and the third depicts and analyzes the Chicago wholesale and retail trade area.

The Public Health Field

Careers in Public Health.—By Adrian G. Gould, M. D., Attending Physician and Assistant Professor of Hygiene, Cornell University. Science Research Associates, 1700 *Prairie Avenue, Chicago, Ill.* 1943. 48 *pp.*

A pamphlet which tells the story of the development of public health work and its relation to government; and discusses job possibilities in this field, the conditions of work, qualifications, preparation, special training, and the pros and cons of a public health career. Also contains chapters on state and local departments of health and voluntary health organizations.

Livestock Ordinances

Control of Livestock in Washington Cities.—Washington Municipal Bulletin, April 24, 1943. *Association of Washington Cities, cooperating with Bureau of Governmental Research of the University of Washington, Seattle, Wash.* 20 *pp.*

A compilation of typical ordinances of Washington cities, regulating the keeping of livestock within city limits. Also sets forth the statutory authority of cities to prevent and regulate domestic animals running at large.

Cooperation for Fire Protection

Intergovernmental Cooperation in Fire Protection in the Los Angeles Area.—By James R. Donoghue, Research Assistant. Bureau of Governmental Research, University of California, Los Angeles, Calif. 1943. 126 *pp., mimeo.*

A study dealing with the character, methods, and amount of intergovernmental cooperation among fire protection agencies in the Los Angeles area. Also takes up the practical problems and legal technicalities involved. Presents information which is intended to help in extending this form of collaboration.

Financing Conventions

Sound Convention Financing.—Created and Distributed by the International Association of Convention Bureaus, Chamber of Commerce Building, Cincinnati, Ohio. 1943. 15 *pp., offset.*

Pamphlet in which the managers of Convention Bureaus of the leading cities of the United States and Canada, as represented in the membership of the International Association of Convention Bureaus, set forth the basic principles that should govern convention financing and outline the benefits that accrue to associations whose conventions are on a sound financial basis.

The Small Plane and Recreation

Sky Camps.—Michigan State Planning Commission, State Building, Lansing, Mich. 1943. *Unpaged.*

Bulletin offering some observations on the possible effect of the growth of the use of the small plane during future years upon the development of recreational areas and facilities. Contains attractive maps showing how facilities for cabins and sports might be located in relation to air fields and hangars.

Tax-Collecting and Assessing Instructions

Two Publications of the Office of the Comptroller, Austin, Texas. 1943.

Instructions to Tax Assessor-Collector.—56 *pp.*

Gives the statutory requirements, rules and regulations, and special instructions from the comptroller relative to the collection of state and county taxes and the compiling of monthly and annual reports.

Instructions for Assessing.—32 *pp.*

Gives the statutory requirements, rules and regulations, and special instructions from the Comptroller relative to the assessment of state and county taxes.

Teen-Age Recreation

Teen Trouble—What Recreation Can Do About It.—Prepared by Virginia Musselman for the National Recreation Association, 315 *Fourth Avenue, New York City.* 1943. 23 *pp.* 10c.

This booklet tells of the steps a number of cities have taken to meet the war-intensified needs of teen-age people and offers practical suggestions suitable for use by any community. Reports from cities place emphasis on planning, training, leadership, social recreation and athletic programs, hang-out rooms, war services, and parental education. The National Recreation Association has incorporated here the findings resulting from a study made of twenty-one key cities in the United States.

Decentralization Bibliography

A List of References on Residential and Industrial Decentralization.—Compiled by Katherine McNamara, Librarian, Library of the Departments of Landscape Architecture and Regional Planning, Harvard University. 1943. 9 *pp., mimeo.*

A list of about 135 periodical, pamphlet, and book references on the subject of overcrowding, density, garden cities, and the trend to urban decentralization.

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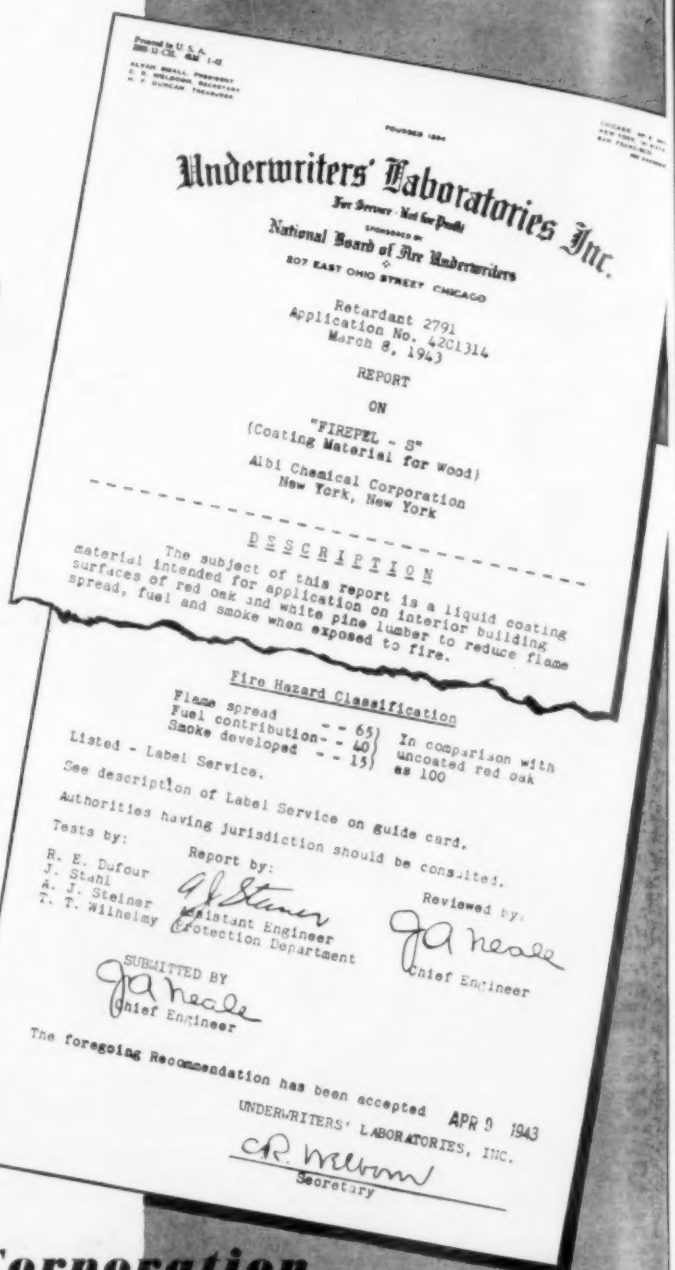

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Smoke developed - - 15
} In comparison with uncoated red oak as 100

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Tests by:
R. E. Dufour
J. Stahl
A. J. Steiner
T. T. Wilhelmy

Report by:
Assistant Engineer
Protection Department

Reviewed by:
Chief Engineer

SUBMITTED BY
Chief Engineer

The foregoing Recommendation has been accepted APR 9 1943
UNDERWRITERS' LABORATORIES, INC.
Secretary

ALBI **Firepel Corporation**
9 Park Place • New York, N. Y.

Saginaw Personnel Administration

Personnel Manual.—City of Saginaw, Mich. Revised 1943. 28 *pp., offset.* 60c.

A manual affording the City Manager a means of presenting the Personnel Advisory Board, department heads, and others with a precise statement of the personnel policies and procedures that are to be followed by the city administration.

Other Reports Received

State Organization for Post-War Planning.—By Dorothy C. Tompkins. Bureau of Public Administration, University of California, Berkeley, Cal. 1943. 16 pp., mimeo.

Transit Fares in American Cities as of December 15, 1942.—American Transit Association, 292 Madison Ave., New York City. 1943. xxiii + 94 pp.

Industrial Fire Brigades.—National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 1943. Edited by Emmett T. Cox, Associate Director, Indiana Fire Service Training School, W. Fred Heisler, Chairman, Committee on Firemen's Training, National Fire Protection Association, and Horatio Bond, Chief Engineer, National Fire Protection Association. viii + 176 pp., offset.

Fires in One Year of War.—National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 1943. 15 pp.

Report of the Committee on Special Enforcement Problems.—National Safety Council, Inc., 20 N. Wacker Drive, Chicago, Ill. 1943. 24 pp.

Miss That Train—Look! Listen! Live!—National Safety Council, Inc., 20 N. Wacker Drive, Chicago, Ill. 1943. 15 pp.

CHICAGO, ILL.—"Chicago's Law Year—1942," Report of the City of Chicago Law Department. 95 pp. Apply to Municipal Reference Library, 1005 City Hall, Chicago, Ill.

MINNEAPOLIS, MINN.—"Budget Facts and Financial Statistics of the City of Minneapolis for 1943." Issued by the Board of Estimate and Taxation, City Hall, Minneapolis, Minn. 33 pp.

—Annual Report, Fire Department, for the year 1942. 42 pp., mimeo.

NEW LONDON, CONN.—Financial Reports, for the year ending September 30, 1942. 34 pp.

OHIO.—Survey, Clark County, 1938-1942, 76 pp., offset.

—Survey, Fairfield County, 1938-1942, 59 pp., offset. Ohio Public Expenditure Council, 50 S. 3rd St., Columbus, Ohio.

PENNSYLVANIA.—"Municipal Support of Volunteer Fire Companies." Pennsylvania Government Administration Service, University of Pennsylvania, Philadelphia, Pa. Published and Distributed by The Educational Committee, International Association of Fire Chiefs, 24 W. 40th St., New York City. 1943. 19 pp.

PORT HURON, MICH.—Annual Report, 1941-1942. 48 pp.

VIRGINIA.—Report of Commission to Study Taxes on Commercial Motor Vehicles to the General Assembly of Virginia. Division of Purchase and Printing, Richmond, Va. 1942. 45 pp.

—Manpower Problems of Virginia's Fire Organizations.—League of Virginia Municipalities, 902 Travelers Building, Richmond, Va. 1943. 13 pp., mimeo. 25c. Free to Virginia Municipal Officials.

WASHINGTON.—"Reserve Funds." Washington Municipal Bulletin, Published by the Association of Washington Cities through cooperation with the Bureau of Governmental Research of the University of Washington, Seattle, Wash. 1943. 14 pp., mimeo.

—A Review of 1943 Legislation Affecting Cities. Association of Washington Cities, Olympia, Wash. 1943. 10 pp., mimeo.

WISCONSIN.—"The Advantages and Disadvantages of Changing from a Village to a City in Wisconsin." League of Wisconsin Municipalities, 30 East Johnson St., Madison, Wis. 1943. 6 pp., mimeo.

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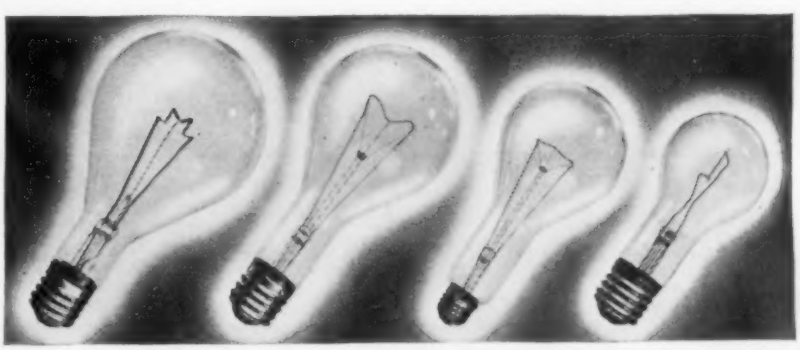

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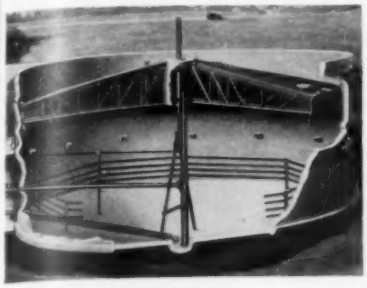
News and Illustrations

Items of Interest to City, Town and County Officials and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings



PFT's new supernatant remover consists of a slotted pipe located in the center of the digestion tank. The only servicing that it requires is an occasional back-washing.

Supernatant Removal Made Easy

The troublesome problem of withdrawing supernatant liquor in the digestion tanks of sewage-treatment plants receives a direct assault by P.F.T.'s new Supernatant Liquor Selector.

This Selector consists of a slotted tubular device mounted vertically at the center of the digester and extended throughout that portion of the depth from which the liquor is normally withdrawn. The tube is equipped with slots narrow enough to hold back the liquid containing large amounts of suspended solids. With the Selector, liquid is removed at a slower rate and over a longer period of the day.

Back-flushing arrangements must be provided so that the solids may be washed from the Selector slots if they become sufficiently clogged. However, the amount of back-flushing depends upon the nature of the solids in the digester. The manufacturer points to one instance where supernatant liquor was drawn continuously through the Selector for an entire week without the necessity of back-flushing.

The manufacturer states that detailed information and blueprints will be furnished to interested ctiy officials upon their writing to the Pacific Flush Tank Co., 4241 Ravenswood Ave., Chicago, Ill., and requesting bulletin 143.

Making City Records Safe

The preservation of vital statistics and historical documents is essential to well ordered life in every city and town. If the street, water works, sewage treatment, and other engineering maps, plans, specifications, and all public service papers relating to power, transportation, and communication had been microfilmed in the flood area of Oklahoma, Illinois, Missouri, Ohio, Arkansas, and Indiana, they would have been *fully* secured against destruction. These original records, transferred to 35-millimeter fireproof film, would be enlarged back to their original size on paper, cloth, or acetate.

Many cities will be glad to know that within the last two years a new organizaiton has entered the field of microfilming. In addition to doing the work, the Microstat Corporation, 18 West 48th St., New York, gives complete insurance and replacement coverage. This policy is specific in value, as it gives the municipality facsimile reproductions worth ten times the cost of the microfilm contract in the event the original records are destroyed. It is unique because it is free of all co-insurance and subrogation clauses.

If the source records are destroyed, small images, each the size of an airmail stamp, will be of little benefit to an engineer unless enlarged to their original. Projecting them through a Film Reader is not practicable for *constant* use, when perhaps a dozen on the same roll are needed by the town clerk or the auditor for consultation with taxpayers. The only logical system is facsimile reproduction which is guaranteed in this policy.

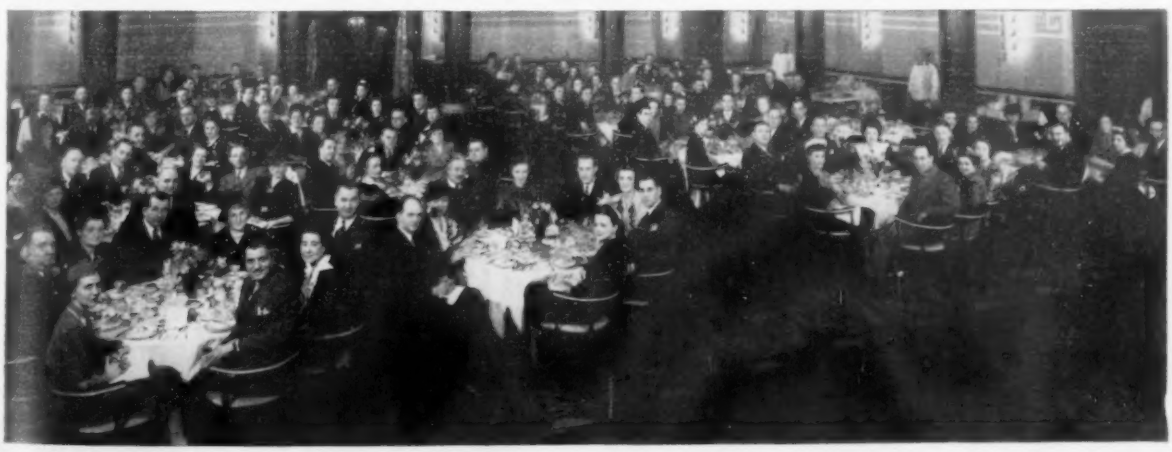
All microfilming is done on the premises of the client on a service basis, which places the full responsibility of production squarely on the shoulders of Microstate Corporation, and not upon the municipality and its employees.

Asphalt Institute Names New District Engineer

Hugh A. Wallace is The Asphalt Institute's new district engineer for the territory comprising Texas, Oklahoma, and Arkansas—according to a report from Bernard E. Gray, general manager. Mr. Wallace will have his office in the Southwestern Life Building, Dallas, Texas.

Mr. Wallace's engineering experience for the past 20 years covers service in the Texas State Highway Department and the Southwestern Division of the U. S. Engineers. His work called for the performance of a wide range of road-building duties, both in the construction and maintenance fields.

Pittsburgh Meter Management and Employees Hold Dinner



Officers of the Pittsburgh Equitable Meter Co., Pittsburgh, Pa., rubbed elbows with the employees at a friendly dinner held in Hotel Webster Hall recently. The dinner was sponsored by the Foreman's Association of the company. Short talks were given by Col. W. F. Rockwell, president, and other members of the supervisory force. Entertainment and dancing topped the evening.

Owing to the character of the information contained in this war accounting portfolio, it is not for general distribution. It is available for review, through local Burroughs offices, to industrial and government officials directly concerned with war accounting.

WORKING TOGETHER TO SAVE TIME AND CONSERVE MANPOWER

In war industries, camps, depots, bases and government offices, Burroughs systems and installation men have been working with officers and executives responsible for setting up practices that save accounting time and conserve clerical manpower.

Because of their wide experience with industrial accounting and government accounting, Burroughs men know how to correlate both, and how to apply to them the speed and efficiency of figuring and accounting machines.

In the course of this work, detailed information has been compiled—information that describes and illustrates practically every war accounting procedure. It is available for review by responsible officials who need to handle vital accounting with the greatest possible savings in time and manpower.

BURROUGHS ADDING MACHINE COMPANY • DETROIT, MICH.

MANUFACTURING FOR WAR

The manufacture of aircraft equipment for the Army Air Forces, and the manufacture of Burroughs figuring and accounting equipment for the Army, Navy, U. S. Government and the nation's many war activities, are the vital tasks assigned to Burroughs in the Victory Program.

Burroughs

Figuring, Accounting and Statistical Machines ★ Nationwide Maintenance Service
Carbon Paper, Roll Paper, Ribbons and Other Office Machine Supplies

The new Elliott Fisher electric machine for lettering many types of tracings, sketches, materials lists, charts, diagrams, tabulations, schedules, procedures, and other records.

The New Automatic Draftsman

IN line with the mechanization of municipal accounting departments and offices, Underwood Elliott Fisher Co. has just made available to city engineers and to the engineering bureaus of water, sewer, street and public works departments, the new "Elliott Fisher Electric Machine for Lettering Engineers' Drawings."

The machine is equipped with a completely electrified standard typewriter keyboard which anyone can soon operate with speed, ease, and efficiency. The electrically controlled keys may be adjusted to produce lettering of any desired density; and the density is further assured by a new Blue Print Ribbon, made especially for this type of drafting work.

The writing surface of the machine is the exclusive Elliott Fisher Flat Platen—flat as a drawing board—which allows 396 square inches of the drawing to be in full view and in lettering position at all times.

Descriptions may be typed, with pin point accuracy, at any location within this area; and in cases of very large drawings, new areas may be quickly moved into typing position. There are no feed rollers or other mechanism to mar or smear the lettering while the drawings are in the machine.

Small or large sheets are accommodated with equal facility. The sheets are simply placed on the large flat writing surface, as they would be on a drafting board. They are held in typing position by means of the paper clamp which is part of the left and the right platen rails. These platen rails are also equipped with slots and circular cut-outs, so that drawings which are longer and wider than the platen may extend through the rails at both sides.

O K CHAMPION

SEWER CLEANERS

PROMPT DELIVERY — While the manufacture of material for the Armed Forces has slowed deliveries of our Power Model Sewer Cleaners, we build two sizes of hand-operated OK Champions that are ready for immediate shipment.

LOW COST—The OK Champion Junior and Standard Sewer Cleaners are nominally priced. The smallest towns and villages are now keeping their sewerage systems in 100% operating capacity with OK Champions.

Ask for Literature

Champion Corporation

4714 Sheffield Ave. Hammond, Ind.

PREVENT RUSTING

● Rusta-Restor cathodic protection, provides *permanent protection* against rusting of water tanks, piping and steel structures of all kinds.

Initial cost of a complete equipment is about equal to the cost of a good paint job. . . . Operation costs about 2 mills (i.e. $0.002) per year per square foot of surface protected.

Rusta-Restor protection is approved by A.W.W.A. specifications, also by Factory Mutual Laboratories, and hundreds of enthusiastic users from border to border and coast to coast.

If your tanks and steel structures are not now protected by this proven low-cost method, they should be. No obligation. Send for fully descriptive literature today.

RUSTA-RESTOR

Division of

THE JOHNSTON & JENNINGS COMPANY

861 Addison Road **Cleveland, Ohio**

Clear The way

WITH A *Fury* exhaust whistle!

The Fury is dependable under all service conditions.

• The tone of the FEDERAL Fury is penetrating and powerful—it gets instant action—clears the way for blocks ahead. Designed especially for emergency vehicles, the Fury Exhaust Whistle can be counted on to protect property and save lives.

The Fury is constructed of malleable iron—a non-critical material. The two working parts are assembled at our plant, and are shipped complete with pull cord and tension spring. Each Fury Exhaust Whistle is accurately machined by FEDERAL to fit the exhaust pipe of your particular vehicle. Shipment can be made immediately, and installation is simple and fast.

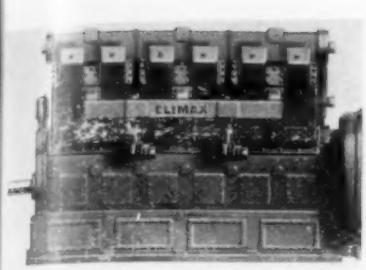
FEDERAL can supply a wide variety of electric sirens for those communities which do not prohibit the use of sirens on emergency vehicles.

WRITE FOR BULLETIN

FEDERAL ELECTRIC CO., INC.

SIREN HEADQUARTERS

8744 South State Street **Chicago, Illinois**



The versatile new Climax V-12 stationary engine operates on either sewage gas, gasoline or natural gas.

New Climax Engine Fits Municipal Use

The latest addition to the line of engines made by the Climax Engineering Co., Clinton, Iowa, is the new V-12 Blue Streak Engine. This versatile 12-cylinder unit will operate on gasoline, butane, natural gas, or sewage gas and is excellently fitted for a number of municipal uses, particularly when sewage gas utilization is planned.

With a normal speed of 600 to 1200 rpm, and a brake hp of 435, this engine is unusually easy to maintain. The low piston speeds and moderate compression enable the engine to run for long periods without servicing. The new Climax V-12 is manufactured in two bores. A 6½-inch bore with 7-inch stroke develops 375 hp at 1200 rpm, while the larger model with a 7-inch bore develops 435 hp at this same speed.

New V-Belt Drives Save Rubber

A new plan to save 250,000 pounds of crude rubber this year—an amount equal to the yearly produce of 25,000 rubber trees—has been announced by Walter Geist, president of Allis-Chalmers Mfg. Co., Milwaukee, Wis., and inventor of the multiple V-belt drive. The program calls for "wartime drives" using shorter center distances and larger sheaves on all new applications made in 1943.

Although engineering of individual V-belt drives has been governed in the past largely by such considerations as convenience, habit, and machine design, today the most important consideration is the saving of rubber for our dwindling stock pile, Mr. Geist pointed out. However, he added, the plan should not be regarded as a temporary, wartime expedient, for the increases are sound and practical—in line with a long-range trend to larger diameters.

By following the program, nearly every field of industry would actually contribute hundreds of pounds of rubber to the war effort. Every buyer of new V-belt drives would not only aid the war effort, but could individually save, on the average, $15 out of every $100 he spends on new drives and $35 of every $100 ordinarily spent on replacement.

Save Man-Power in Every Department with

APECO PHOTOCOPY MACHINE

Here is a machine that multiplies Man-Power—releasing men, women *and equipment* for other work. Speeds up production! Saves valuable hours now spent on copying and tracing by making photo-exact copies at small expense—in your own place of business, without delays.

SAVES TIME IN COPYING LETTERS BLUEPRINTS DRAWINGS WORK ORDERS SPECIFICATIONS RECORDS —other papers

Makes Photo-Exact Copies of Anything Written, Printed, Drawn or Photographed

APeCO makes copies up to 18"x22"—1 to 100 copies or more. No chance for error! No need for proofreading! Legally acceptable.

FOOLPROOF OPERATION! STURDY CONSTRUCTION!

With our simple instructions, any inexperienced boy or girl can produce photo-exact copies of letters, blueprints, drawings, etc. No skill or darkroom needed.

PROMPT DELIVERY—Write for FREE folder now! Without obligation, ask to have an APeCO consultant call—located in all principal cities and Canada.

AMERICAN PHOTOCOPY EQUIPMENT COMPANY
2849 N. Clark Street Dept. EB-1 Chicago, Illinois

Jeffrey

FOR A COMPLETE LINE OF SEWAGE AND WATER-TREATMENT EQUIPMENT . .

- Bar screens (mechanically-cleaned)
- Chemical feeders (electric vibrating)
- Floctrols (controlled flocculation)
- Grit washers
- Grit collectors
- Primary and secondary sludge collectors
- Sludge elevators
- Screenings grinders
- Scum removers

(All Patented)

Jeffrey engineers have had years of experience—have made many installations—can offer technical data on both equipment and plant design. Write

The Jeffrey Mfg. Co.

970-99 NORTH FOURTH STREET
COLUMBUS, OHIO

Baltimore, Birmingham, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Denver, Detroit, Harlan, Houston, Huntington, Milwaukee, New York, Philadelphia, Pittsburgh, St. Louis, Salt Lake City, Scranton

QUALITY *means* HIGH MILEAGE *in* ROTARY BROOM FIBRES

AFRICAN BASS FIBRES

INDIA PALMYRAH STALKS

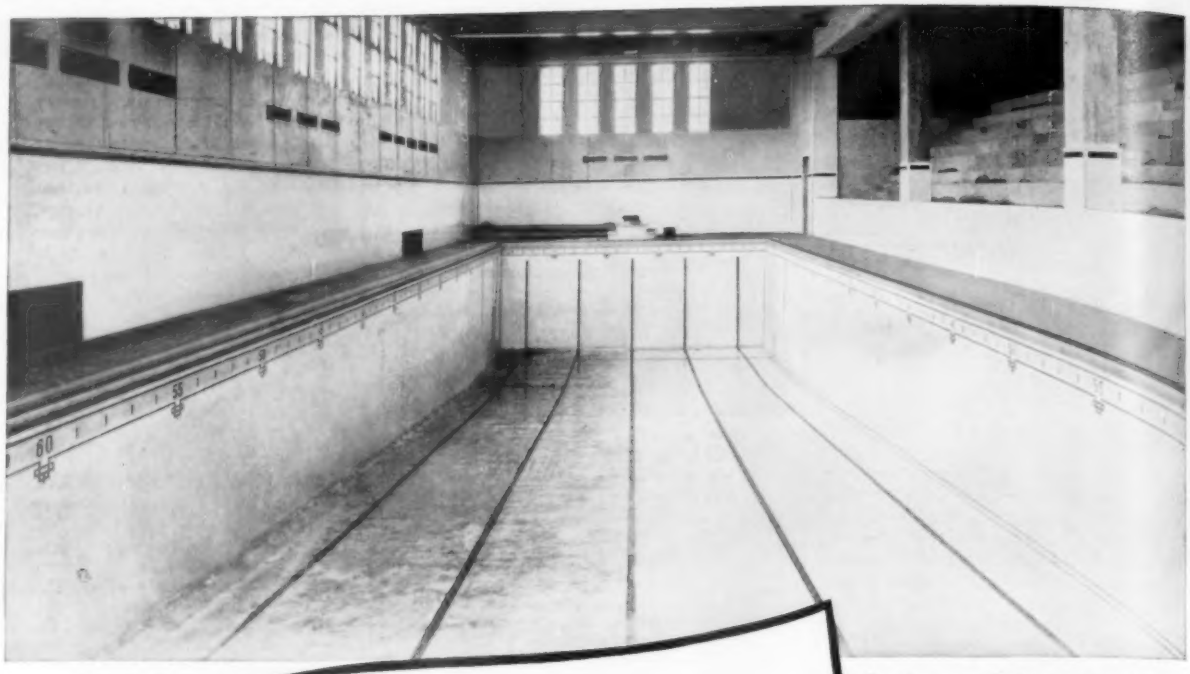
Just as the increased use of mechanical street sweepers saves manpower, the use of fresh, high-quality fibre is good economy. We can supply from fresh stock all types, grades, gauges and standard lengths of fibre used in rotary brooms. Your inquiry will receive our prompt attention.

MOUNTAIN HICKORY SPLINTS

STEEL WIRE

The OTTO GERDAU CO.

533 Canal St., New York, N. Y.



See for yourself the amazing cleansing power of Tilite, demonstrated in the photograph above. Try a free sample on your pool.

ONE TRIAL WILL PROVE THE REMARKABLE CLEANING ACTION OF TILITE!

Reg. U. S. Pat. Off.

The picture above is not an exaggeration. Use Tilite on your pool and see how quickly and easily it will bring back the soiled tile to fresh, sparkling cleanliness. Tilite does so thorough and fast a job because it works with twofold chemical-mechanical action.

Send now for a generous sample and discover how Tilite aids in removing imbedded dirt from white mosaic, ceramic and vitrified tile—how it takes off most stains and discolorations, including rust—how economical it is to use—and how safe from slippery soap it leaves cleaned surfaces.

On receipt of the coupon below we will promptly send you a free sample of Tilite. If you want to order a supply, we can furnish Tilite in 50, 150, or 300 lb. drums.

ABOUT PER*CHLORON** . . . This product is under complete allocation by the War Production Board and the amount available is limited. If you are a Per*chloron* customer, consult with your dealer or with us as to the probability of obtaining a supply, or as to means of chlorinating your water by other methods.

*Reg. U. S. Pat. Off.

FREE SAMPLE—MAIL THIS COUPON

TILITE

Reg. U. S. Pat. Off.

Pennsylvania Salt Manufacturing Co.
Dept. AC, 1000 Widener Bldg., Philadelphia, Pa.
Please send me a free sample of Tilite.

NAME_____

NAME OF POOL_____

ADDRESS_____

Showing how the Hygienic refuse collector works. Note the hinge arrangement that allows for easy dumping of the garbage cans. A hydraulic compressor is contained in this rear compartment.

A Refuse Truck for the Post-War Period

An interesting new type of garbage collection truck, based on a Swiss design, is planning to enter the American field during the post-war period. This truck is equipped with a closed body having a hydraulic compressing mechanism that condenses the refuse into a compact mass insuring a heavy "pay load."

The unique method of loading the trucks calls for the use of a garbage can with a hook arrangement that allows the operator to swing the can into position easily. When the contents have been dumped, the hydraulic compressor slides forward, pushing the refuse into the forward part of the truck and leaving space for the next load. This operation can be performed while the truck is moving, thereby eliminating any lost motion or time.

The can itself is built sturdily with a heavy hinged lid. All operations can be performed in a clean workmanlike manner. The shutters on both the trucks and cans effectively prevent the escape of dust or offensive smells.

Trucks and containers of this design have been in use for several years in English and European cities. Amsterdam, Holland, is reported to have an extensive collection system of this type.

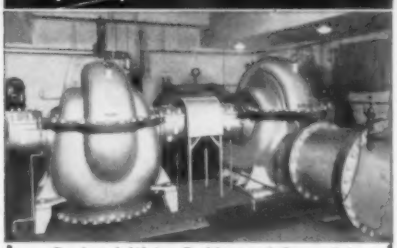
Plans call for this type of body to be introduced by the Hygienic Refuse Collecting System, 99 Hudson St., New York.

Everson Mfg. Co. Reelects Mr. Deutsch

Fred W. Deutsch was reelected to the board of directors, as well as to the office of vice-president, of the Everson Mfg. Co., 214 W. Huron St., Chicago, Ill. Mr. Deutsch has been connected with this company since 1939.

This company has recently announced a new portable SterElator, designed for emergency use and general main sterilization purposes. According to Mr. Deutsch, the company is playing an increasingly important role in wartime with many of its units used by the armed forces throughout the world.

How One Water Supply Pumps Another Supply



De Laval Water Turbine and Pump Set

At full capacity, the De Laval water turbine at the right, receiving 20,800 g.p.m. of Catskill water under 210 ft. head and discharging to its distribution system against 120 ft. head, drives the De Laval pump at the left operating at 560 r.p.m., which delivers 21,000 g.p.m. of Croton water to its distribution system against 100 ft. head. The positive head at the suction nozzle is 35 ft.

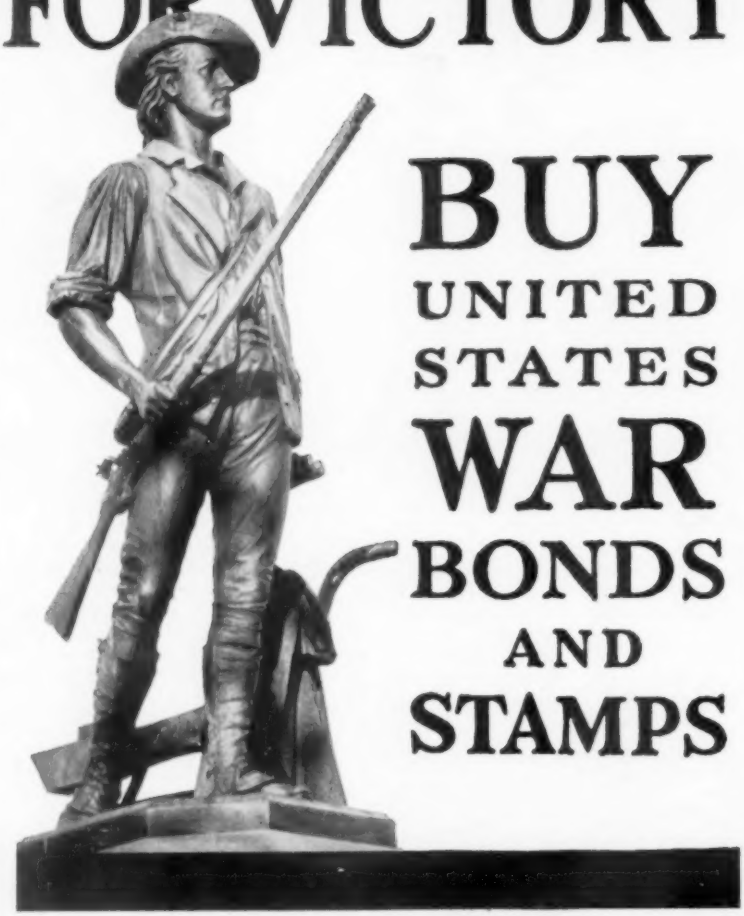
The speed of the unit is automatically regulated. No particular attention is necessary.

De Laval Engineers will gladly help in solving your pumping problems.

DE LAVAL STEAM TURBINE CO.
TRENTON, NEW JERSEY

THE DOW CHEMICAL COMPANY
MIDLAND MICHIGAN

FOR VICTORY



BUY UNITED STATES WAR BONDS AND STAMPS

★ ★ ★ ★ ★

"Remember, Our Boys Give Their Lives... You Lend Your Money!"

★ ★

SOLVAY

TRADE MARK REG. U. S. PAT. OFF.

Suppliers of LIQUID CHLORINE

To the home front! *To the War Front!*

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 RECTOR STREET NEW YORK, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
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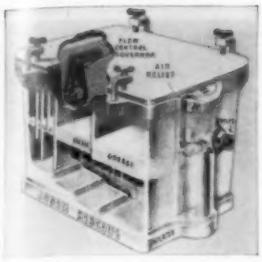


The Josam vitrified clay grease interceptor.

Grease Interceptors Aid War Production

Emphasizing the importance of grease recovery as a war measure, the Josam Mfg. Co., Cleveland, Ohio, announces the manufacture of a new type vitreous glazed earthenware grease interceptor. The interceptor is designed similar to the Josam series "J" Cascade interceptor. It is recommended for use in connection with restaurants, cafeterias, hotels, hospitals, and homes where food is prepared and grease is permitted to enter the sewerage lines.

With nominal attention and inspection by municipal sewage treatment officials, the grease now wasted could be reclaimed for war purposes, the manufacturer asserts. Since cast iron has been a critical material, it has been difficult to obtain grease interceptors, and in many cases the installation of a grease intercepting device was overlooked because of the difficulty in securing units. The new vitreous glazed earthenware interceptor overcomes this difficulty. Tests by the manufacturer indicate that they are equal in every way to the cast iron interceptors they replace and should give as good or better service.

Mack Truck Moves Executive Offices

Mack Trucks, Inc., have just moved their executive offices from the company's Long Island plant into the Empire State Building. They will occupy the 20th floor, comprising 22,900 square feet of space. This marks the return of Mack to New York City after a seven-year absence.

This move, according to Mack officials, will add thousands of square feet of much needed floor space to the Long Island City plant for the production of war materials, chiefly fire engines for the Army and Navy. This company recently expanded its truck and marine engine production lines at New Brunswick, N. J., and Allentown, Pa., by acquiring factories in and near these cities, all producing vital war equipment.

H. C. Pfaff Dies

Henry C. Pfaff, president of Pfaff and Kendall, Traffic and Street Sign Co., Newark, N. J., died on March 30, 1943.

HYDRO-TITE

The dependable self-caulking joint compound for jointing cast iron water mains — uniform — easy to prepare — easy to use — in service for more than 30 years.

HYDRAULIC DEVELOPMENT CORPORATION
50 Church St., New York, N. Y.

FIBREX — A sanitary packing used like braided jute — will not breed bacteria — 30% lighter than jute — put up in 60 pound reels.

DRY BRAIDED
Fibrex

TURN "Slacker" SEWERS INTO "Slicker" SEWERS WITH STEWART SEWER CLEANING EQUIPMENT

RODS—

TOOLS—

ROOT CUTTERS—

—ALSO—

Buckets, Rod Guides, Rod Pushers, Self-Propelling Nozzles, Flushers, Brushes, etc.—and—for large jobs, sewer-cleaning machines, power and hand-operated, for rent or sale.

To get "slick" performance from "slacker" sewers, all that is necessary is to clean the pipe linings with Stewart equipment. *There is STEWART equipment for every type and size of sewer cleaning job.*

WRITE FOR NEW CATALOG

W. H. STEWART, 1051 S. CLINTON ST., SYRACUSE, NEW YORK

Ringstyle VALVES

These are quality angle valves of the inverted key type with coupling nuts to attach direct to water meters.

RINGSTYLE Valves are made for connecting to iron or copper pipe. They save meter couplings, joints and space. Learn more about these useful fittings. —ask for our catalog and a sample RINGSTYLE Valve.

FORD METER BOX CO.
WABASH, IND.

Right now, our job is to produce better and more portable gasoline-engine-driven generators than our enemies—Germany, Italy and Japan. It's our biggest job. We are faced with tough competition. But it will help us and help you. To meet the ever-increasing demands of the Army and Navy, we have made many important improvements in our units and we have multiplied our production several times over. This means better and more Homelite Portable Generators for your use after the war.

We're meeting the demands of the military forces with flying colors. We'll be ready to meet your demands, with equal success, when peace is finally declared.

HOMELITE CORPORATION

PORT CHESTER, NEW YORK

New Expansion Joints

Did you ever hear of a plastic expansion joint? Servicised Products Corp., 6051 W. 65th St., Chicago, Ill., has developed one to supplant the former hot poured, rubber sealing, waterproof compound that has been ruled out because of the war. Known as Victory Para-Plastic, this compound contains no critical materials and yet has sealing qualities to conform fully with Federal specifications covering hot poured sealing compounds. It bonds firmly with concrete, steel, or wood, and acts as a joint or crevice sealer against infiltration of water or any other foreign matter.

The remarkable feature of this material is the fact that it will expand several times its original thickness and still maintain a perfect seal. It is not affected by ordinary extremes of weather.

Protecting Fire Extinguishers

Potential fifth columnists will have a difficult time if they expect to sabotage fire extinguishers protected by the new case manufactured by the American-LaFrance-Foamite Corp., Elmira, N. Y.

Constructed of a non-critical tough cardboard stock, it safely houses the extinguisher from the reach of unauthorized persons by revealing any attempt to disturb or tamper with it, yet allows instant removal for legitimate use. One quick pull of a string breaks through a gummed paper sealing strip and permits the case to unfold. The extinguisher can immediately be lifted from its bracket.

The case can then be reused. Simply reservice extinguisher, replace and reseal with a special insignia tape. This tape is difficult to duplicate and is only available to purchasers of the cases.

N. DeWind Opens Consulting Office

N. DeWind, formerly manager of Governmental Sales for the Austin-Western Road Machinery Co., Aurora, Ill., recently announced his retirement from this position to engage in manufacturing and construction engineering as a consultant.

He will be succeeded in Washington by K. N. Forbes, of the Austin Western Road Machinery Co.

Mr. DeWind's new consulting office will be at Room 949 Shoreham Bldg., 15th and H Sts, N.W., Washington, D. C.

New District Office for Okonite

The Okonite Co., manufacturers of electrical insulated cables, with executive offices in Passaic, N. J., has established a new district sales office in 904 Pere Marquette Bldg., New Orleans, La. The new office is in the charge of W. D. Stroud, sales engineer, formerly of the Birmingham, Ala., office. Its territory will include Louisiana, southern Mississippi, and northwest Florida.

Model SB-2 *sludge disintegrator used at the Norwalk, Ohio, sewage treatment plant.*

Sewage Sludge and Victory Gardens

Kitchen gardening takes on a vitally important meaning for Americans in 1943. The back yards of homes throughout the country will figure prominently in the problem of meeting war-induced food shortages, and properly conditioned sewage sludge will be important in helping this production.

Robert Frazier, superintendent of sewage treatment at Oshkosh, Wis., feels that it is the patriotic duty of operators to popularize the use of prepared or conditioned sludge as never before. He prepares sludge in his plant in a grinder and sells it for $3.50 per cubic yard under the eye-catching name of Oshkonite; and is able to pay for the grinder, the wages of the extra man who cares for the grounds and sells the sludge, and for added trees and shrubs for landscaping as well.

C. O. Baetz at Appleton, Wis., improves the sludge of his plant by grinding it in a Royer grinder and fortifying it with chemicals to increase the content of nitrogen, phosphoric acid, and potash. He sells this product under the name of Appcolizer.

Although the distribution of these disintegrators or shredders is controlled by WPB regulation, there has been no ruling against their manufacture and they are, therefore, obtainable when the matter of priorities is once adjusted. Municipalities desiring this equipment for use on both public and private victory gardens should consult with their regional WPB boards. The applicants should be in a position to show the board just what is proposed in the way of planting and the exact place in the gardening project the disintegrator or shredder will occupy. Favorable action should follow such a thorough explanation of the need for low cost and effective fertilizer at this time. Among the reasons that will support the municipality's claims for higher priorities is the fact that these machines do a complete job with a minimum of manpower.

S. B. Davies, president of the Royer Foundry and Machine Co., Kingston, Pa., for many years builders of sludge disintegrators, informs THE AMERICAN CITY that his concern has scores of letters testifying to the fact that Royers have saved hundreds of man-hours during a season, preparing sewage sludge for use as fertilizer.

Making Sewage Treatment Safe

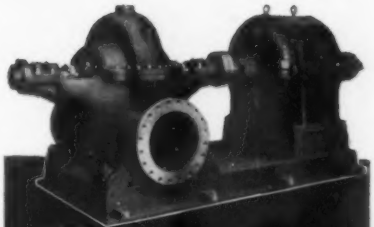
The danger of explosions and fire hazards from digester gas in sewage treatment plants can be greatly minimized by the well-designed use of Varec sewage gas control equipment, according to a recent publication by The Vapor Recovery Systems Co., 2820 North Alameda St., Compton, Calif.

In this company's catalog S-3, typical flow and installation diagrams are shown covering both multiple and single digestion gas systems. This also describes and explains formulas for calculating the inflamability of gas and vapors, and contains other descriptive data showing the use of this type of equipment in controlling hazards in a sewage-treatment plant.

Clayton Mfg. Increases Sales Staff

H. E. Goss has recently joined the sales promotion staff of the Clayton Mfg. Co., Alhambra, Calif.

Coming from Portland, Oregon, he began his business career with the Crane Company of that city. Until recently he was manager of this company's Davenport, Iowa office.



FOR MUNICIPAL WATER SUPPLY

Morris Double-Suction Horizontally-Split Pumps are notable for their high efficiency and dependable, trouble-free operation. Water Department Superintendents of municipalities where these units are used report complete satisfaction with their service. Built in single and multiple stages for all capacities.

Bulletin on request

MORRIS MACHINE WORKS

Baldwinsville New York

MORRIS

CENTRIFUGAL PUMPS

for municipal services

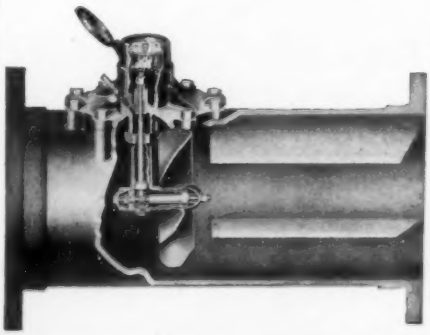
SPARLING

MAIN LINE

WATER METERS

in San Francisco—

San Francisco has used Sparling Main-line Meters since 1925. The users include the City Water Departments, Railways, Breweries, Sugar Refineries, Steel Mills, Utilities, Airports and Packing Houses.



A record of 150 Sparlings in one city reflects Service and Satisfaction.

R. W. SPARLING

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CHICAGO.....3104 South Michigan Ave.
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FREEDOM IS NOT FREE — IT IS PRICELESS ★ BUY WAR BONDS

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ENGINEERS AND ARCHITECTS REQUESTED THIS FREE BOOK

In "Typical Designs of Timber Structures" we have assembled the design drawings of 70 representative types of timber structures that have been engineered under the TECO Connector System of construction. It abounds in suggestions for solving design problems. One prominent architect writes: "It is one of the most useful pieces of work that I have received in 20 years." A request on your professional letterhead will bring you a complimentary copy of this most valuable reference book. Write while it is available.

The TECO Ring Connector spreads the load on a timber joint over practically the entire cross-section of the wood . . . brings the full structural strength of lumber into play.

TIMBER ENGINEERING COMPANY

NATIONAL MANUFACTURERS OF ***TECO*** *TIMBER CONNECTORS AND TOOLS*

WASHINGTON, D. C. **PORTLAND, OREGON**

Berg Named Manager of Gar Wood Division

A. C. Berg is the new manager of the Road Machinery Division of Gar Wood Industries, Inc., Detroit, Mich., according to G. A. Bassett, president.

A. C. Berg

Mr. Berg, who joined the company in 1919, became assistant manager of the Road Machinery Division when the division became a part of the Gar Wood Industries, Inc., in 1934. R. S. Headley has been appointed assistant manager to Mr. Berg.

Manhole Fittings of Pre-Cast Concrete

Conservation of steel and cast iron for manhole covers and frames has developed into a fine art by the recently announced pre-cast concrete manhole fittings developed by the United Concrete Form Products Co., 101 Park Ave., New York.

This manhole cover is well engineered along the lines of a king post truss. Radial reinforcing rods connect from the outer to an inner rim and bring into play the high compressive strength of the concrete. It allows the edge to be thin and permits the construction of a relatively light cover.

The cover and frame will carry the heaviest loading permitted on highways. Tests have shown the actual load carrying capacity to be considerably in excess of requirements.

Eimco Adds New Laboratory

A new laboratory has been established by The Eimco Corp., 634-666 South Fourth West St., Salt Lake City, Utah. This filtration laboratory is located at their Chicago office, 111 West Washington Street, Chicago, Ill. The staff has been enlarged, and Paul Ritcher has been placed in charge of the Filtration Equipment Department replacing C. J. Peterson.

Bristol Notes Officer Changes

The officer personnel changes were recently announced by Howard H. Bristol, president of The Bristol Co., Waterbury, Conn., manufacturers of automatic control and recording instruments.

L. G. Bean was named vice-president in charge of engineering and sales. Harry E. Beane was made sales manager, and A. L. Stilson assistant sales manager. All will headquarter in Waterbury.

Are You Planning the Work Ahead?

Neglected water distribution systems and extensions, pumping stations, filtration plants — perhaps already you have dusted off the old drafting board and are making the preliminary layouts.

There will be needed main and pump discharge line meters, filter effluent controllers and filter gauges, long-distance water level transmission and pump control. We have helpful bulletins to send you and perhaps some useful engineering advice if you'll tell us your problems. We would like to be of service. Write to Builders-Providence, Inc., 9 Codding St., Providence, R. I.

Sincerely Yours,

BUILDERS - PROVIDENCE

ARMY TWILL by REEVES SANFORIZED* MADE TO GOVERNMENT SPECIFICATIONS

REEVES Glengarrie POPLIN

For Better Uniforms Demand These Labels!

REEVES ARMY TWILL SCORES A HIT!

Men who safeguard our City require uniforms whose official appearance inspires public confidence. They must also withstand the strain of active duty. That's why Reeves Army Twill wins their praise. Specify this famous fabric in *your* uniforms.

Reeves Army Twill passes U. S. Govt. tests for strength, endurance and color-fastness. For fabric vitality it's a leader!

For matching shirts, GLENGARRIE POPLIN is equally popular. Both fabrics available in favorite colors—are Sanforized* against shrinking.

*Fabric shrinkage not more than 1%. (U. S. Government Test CCC-T-191-a).

See your nearest dealer for uniforms, sport and work clothes made from these famous fabrics, or write for leaflet to:

OVER 6050 million yards of Reeves Army Twill sold to the U. S. Army

REEVES BROTHERS, INC.

54 WORTH STREET NEW YORK CITY

EVERYBODY EVERY PAYDAY 10%

IN WAR BONDS

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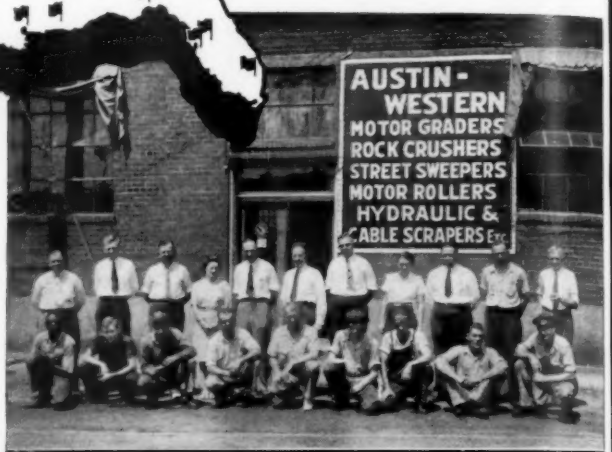
Payroll Savings Plan!

Along with increased war production goals go increased costs . . . extra billions which must be raised, and raised fast, to win this war. That means we must raise our sights all along the line, with every firm offering every American with a regular income the chance to buy more *War Bonds*. YOUR help is asked in encouraging employees to put at least 10 per cent of their pay into War Bonds every payday, through the Payroll Savings Plan. For details of the Plan, approved by organized labor, write, wire, or phone Treasury Department Section T, 709 12th Street N.W., Washington, D. C.

U S. War Savings Bonds



who keep
Construction Machinery in

"Fighting Trim"

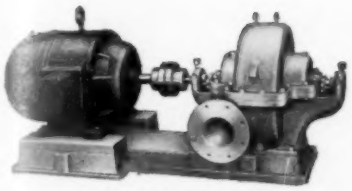
• Not until the whole story of the outstanding job done by construction machinery in speeding the war effort in this Country can finally be told, will the importance of the part played by the Equipment Distributor be fully realized.

Faced with shortages of men and material, the Distributor and his staff, in shop and field, have done the impossible, time after time, in keeping equipment working.

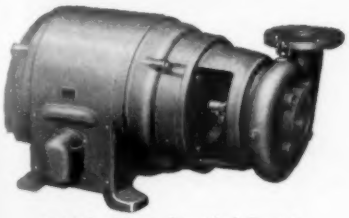
Much of the job of construction for military purposes is finished; but much remains to be done—and with machines which have already served one life of usefulness.

Your nearby Austin-Western Distributor, with his skilled mechanics and adequate shop facilities, stands ready to help you finish this truly epic job of home front construction for war. THE AUSTIN-WESTERN ROAD MACHINERY CO., Aurora, Illinois.

BUILDERS OF ROAD MACHINERY
Austin Western
SINCE 1859



AD Centrifugal Pump



G.M.C. Close Coupled Pump

New Pumps Announced by Aurora Pump Co.

Two new pumps have just been announced by the Aurora Pump Co., 66 Loucks St., Aurora, Ill., both well adapted to general water supply services.

The first of these is the Type AD Aurora two-stage, horizontally split case, centrifugal pump with a range of capacities up to 600 gpm against heads of 400 feet. The new AD pump is compact and readily accessible. The manufacturer points to streamlined water passages and impellers, both hydraulically coordinated to minimize low resistance.

The second new line is the Type G.M.C. Close Coupled centrifugal pumps. The impellers and shells are streamlined and the entire pump designed for use where compactness is necessary. These pumps range in capacity from 5 to 1,000 gpm for operation against head up to 100 pounds per square inch.

Dresser Industries Note Sales Rise

The volume of sales for the Dresser Industries during the three months ending January 31 was three times as great as it was for the corresponding period a year ago, according to H. N. Mallon, president of Dresser Manufacturing Co., Bradford, Pa., in a report just mailed to stockholders. Sales during this period amounted to $13,334,039.

Consolidated net profits during this period, after provision for taxes, was $578,077—or approximately equivalent to $1.55 per share. This corresponds to 89c per share for the period ending January 31, 1943.

Alden Hammond Dies

Alden M. Hammond, senior partner of the Hammond-Goff Co., advertising agency at 26 Custom House St., Providence, R. I., died on April 11. The company will be continued under the same name by Carleton Goff.

Griffin Wellpoint Opens Southern Branch

The Griffin Wellpoint Corp., 881 E. 141st St., New York, recently announced the opening of a southern branch office and warehouse at 633 North Myrtle Ave., Jacksonville, Fla. Wm. J. Carr has been appointed manager and will be in charge of all rentals and sales.

Officials of the Griffin Wellpoint Corporation state that the branch office will carry a large stock of wellpoint systems, generators, and similar equipment which will be ready for prompt shipment.

Simon S. Selig Dies

Simon S. Selig, president of The Selig Co., Atlanta, Ga., died on May 10 at Hot Springs, Ark.

Mr. Selig was reared and educated in Atlanta and in 1896 he established The Selig Company which has grown into a nationally known organization. Under

Simon S. Selig

his direction The Selig Company continuously preached the subject of sanitation and health in public schools. He was a member of the Board of Directors of The Temple and the Hebrew Orphans Home, Georgia Lodge 96 F. & A. M., past president of The Standard Club, past president of the National Sanitary Supply Association, past member of the Board of Directors of the National Association of Insecticide and Disinfectant Manufacturers, an associate member of the National Association of Operative Millers, member of The American Soap and Glycerine Producers Association, the Atlanta Chamber of Commerce and the Kiwanis Club. He was also president of The Selig Company of Texas, Inc., of Dallas, Texas.

As a citizen, he was always interested in civic affairs and constantly worked on many committees formed to keep Atlanta in the forefront as a progressive community.

R. M. Simon Dies

Raymond M. Simon, New England representative for the R. D. Wood Company, 400 Chestnut St., Philadelphia, Pa., died at his home in Worcester, Mass., on May 18, 1943.

Mr. Simon was a native of Philadelphia, veteran of World War I, and has been in the employ of this company for the past 30 years.

STEEL TANKS CANNOT BE REPLACED NOW

PROTECT YOUR TANKS, CLARIFIERS, FILTERS, etc. WITH

The RUSTOP (Cathodic) System. Completely protects all types of submerged metals from corrosion.

CLEANS OLD TANKS
KEEPS NEW TANKS CLEAN

Greatly prolongs useful life of costly equipment. No service interruptions for installation. Materials now available.

THE APPROVED METHOD

RUSTOP THE CATHODIC SYSTEM OF CORROSION PREVENTION

ELECTRO RUST-PROOFING CO.
DAYTON • OHIO

LEAK DETECTOR

Quick, positive location of underground leaks!

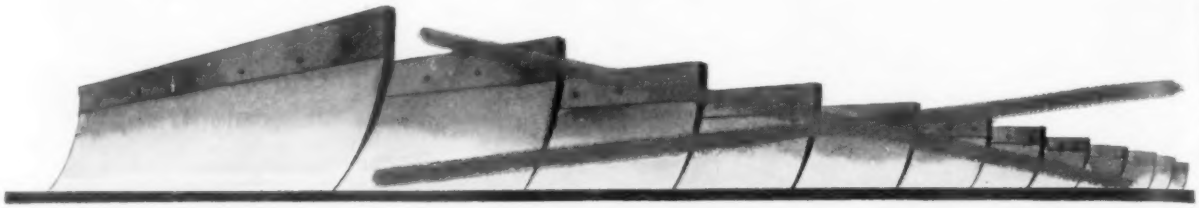
● The most sensitive instrument so far developed for detecting underground leaks, the Globe Geophone pays for itself many times over in conserving precious water and steam. "Ear" operates on the principle of the seismograph used for recording earth tremors. Simple, accurate, and dependable!

● No Industrial Plant, Public Utility or Institution having underground piping, water or steam can afford to be without a Globe Geophone in its maintenance department. Recommended by hundreds of satisfied users!

GLOBE PHONE MFG. CORP.
Department "H" Reading, Mass.
Save Water . . . Save Steam

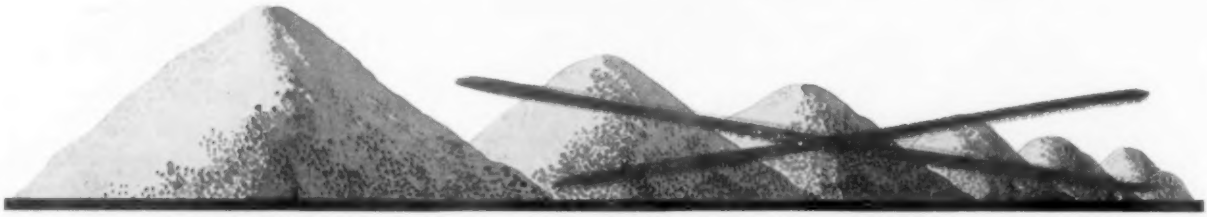
SAVES MANPOWER

All the way down the line, less manpower is needed when gravel-type roads are maintained with calcium chloride, since hauling and placing of resurfacing materials is eliminated and much less maintenance is required.



CUTS BLADING

Each maintenance blader can serve ten times as many miles when roads are consolidated with calcium chloride. Thus the life of hard-to-get cutting edges is lengthened tremendously and blading equipment is conserved.



CONSERVES ROAD MATERIALS

In preventing loss of road materials through traffic action and dust, calcium chloride maintenance saves up to 300 cubic yards of aggregate per mile annually. This also results in saving of tools, shovels, trucks and tires.

In addition to the cost and labor saving advantages of calcium chloride use, the elimination of dust and compaction of road surfaces serves the war effort by protecting the health and safety of essential farm and industrial workers. Mail coupon for a 62-page Bulletin, "Surface Consolidation and Maintenance."

CALCIUM CHLORIDE ASSOCIATION, 4145 Penobscot Building, Detroit, Mich.

CALCIUM CHLORIDE
for SURFACE CONSOLIDATION

CALCIUM CHLORIDE ASSOCIATION
4145 Penobscot Building, Detroit, Mich.

Please send new 62-page Bulletin on "Surface Consolidation and Maintenance."

Name_____

Street_____

City_____ State_____

Patton Named President Equipment Association

Cuyler S. Patton of the American Locomotive Company was elected president of the Tubular Exchanger Manufacturers Association at the annual meeting held this past month in New York.

C. S. Patton

Mr. Patton has been prominent in the activities of the Tubular Exchanger Manufacturers Association for many years and has served several terms on its executive committee.

At the American Locomotive Company, Mr. Patton is manager of sales for the Alco Products Division, 30 Church St., New York. In this position he has charge of sales of heat exchangers, condensers, feed water heaters, evaporators, tubular equipment, code pressure vessels, fabricated plate work, steel water pipe and allied lines.

Safety Record by Sylvania

The Boston Street plant of Sylvania Electric Products, Inc., Salem, Mass., has set a real record for safety in working. In the past 2½ years there has not been one accident that has meant a loss of an employee's time. This period represents 3,332,000 man-hours of safe work.

This unusually good safety record won for the Boston Street plant the Grand Trophy awarded by the Massachusetts Safety Council. Originally presented to the management of the company by Governor Saltonstal, it was passed on to the employees, to whom officials believe all credit for the achievement should go.

Chemical Feed Data

The many thousands of Proportioneers' Chlor-O-Feeders now in service throughout the United States have attracted the widespread attention of research laboratories and state board of health district engineers; and in order to take care of their request for detailed information, Proportioneers have made available a new bulletin giving complete information on the installation, operation, and maintenance of the Heavy Duty Midget Chlor-O-Feeder.

This attractive pamphlet can be secured by writing Proportioneers, at 99 Codding St., Providence, R. I., and asking for Bulletin HDM-COF. A companion piece, bulletin HDM, giving complete specifications of the chemical feeder, is also ready for distribution.

89 *years*

OF PROGRESSIVE STORAGE TANK ENGINEERING!

Established in 1854, the R. D. Cole Mfg. Co. has long been recognized as one of the nation's outstanding tank builders. With 89 years of progressive storage tank experience at your disposal, we shall welcome the opportunity to serve your tank needs.

1,000,000-Gallon "Cole-Shallow Depth" Tank

ALL SHAPES AND SIZES

The R. D. Cole Mfg. Co. has developed a complete line of elevated steel tanks for water supply, both for domestic service, and sprinkler requirements, ranging in capacity from 5,000 to 2,000,000 gallons. The designs include the standard Hemispherical and Self-supporting bottom, the "Cole Ovaloid," Standpipe, and many individual styles involving architectural treatment to satisfy local conditions, or to provide special shapes for advertising purposes.

STORAGE TANKS

Pressure tanks for storage of gas from digestors at sewage disposal plants so that excess output at peak loads can be used during off-peak periods. Chemical storage tanks, hot water storage tanks, tanks for bulk storage of oils and gas.

CONSTRUCTION FACILITIES

Fabricated steel plate — the R. D. Cole Mfg. Co. has a fully equipped plant for the fabrication of riveted or welded steel plate. In addition to the construction of its regular line of horizontal return tubular boilers, oil storage tanks, tubular heaters, etc., the company is prepared to construct special tanks and apparatus of any specified metal plate.

Designs available for any service, made to your specifications or from our designs submitted by our own Engineering Department.

R. D. COLE MFG. CO.

Established 1854

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JUL 22 1943

PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

The American City

JULY, 1943

FREEDOM THROUGH INTERDEPENDENCE

AS city officials well know, municipal home rule cannot mean complete freedom from state and national obligations. City Hall and State House and National Capitol are each dependent, for their security and efficiency, on the cooperation of the other two.

THIS principle must now be given world-wide application. For wartime efficiency, the United States gains strength from the United Nations. In building a just and lasting peace, independence in national affairs will gain strength from interdependence in world affairs.